

## The

POBIHROMABS
supar:
Professional 3D graph plotting program with ProDraw and PostScript support


Cross borider sex the elect


INDI DIRECT MAIL is original and very exciting. Before you buy mail order you must first be confident that you will receive the product you've ordered and that the supplier will still be there in the future, should you need them A mail order purchase from INDI is a safe and secure decision and heres why. Indi is a wholly owned subsidiary of a public company now in its eleventh year of trading and specialising in the supply of computer products.
With a group turnover approaching $£ 30$ million per annum, INDI have the resources and the purchasing power to offer you the best deals, deliver them next day nationwide and always be around when you need us.

## No Deposit Credit

INDI are now able to offer competitive credit facilities on all orders over $£ 100$. Payment can be over $12,24,36$ 48 or 60 Months and can include insurance to cover repayments in the event of sickness or unemployment All credit facilities are subject to status and applicants must be over the age of 18 . If you would like a quote, simply call our sales line where acceptance can normally be notified within the hour

## INDI TELESALES

TEL 0543419999 FAX 0543418079 9 am - 7pm Monday to Friday $9.30 \mathrm{am}-4.30 \mathrm{pm}$ Saturdays

Don't send any Money until you are $100 \%$ certain that any advertiser has the product that you want in stock and will deliver to you immediately. Far too often Jakki Brambles receives letters from customers who are finding it difficult to obtain a refund from an advertiser that has promised to supply but hasn't. To give you the confidence to buy from INDI, we have joined the DMA, a very important Independent Authority that demands the highest possible standards from its members. DMA members agree to abide by the British Code of Advertising Practice and to subscribe to the Advertising Standards Board of Finance (ASBOF). Look out for the DMA Symbol. It is your guarantee signifying to the customer the truly professional edge of the Industry.


If you are considering a console why compromise. The new Amigz CD32 is leading edge tec nology, it's faster with more colours and has
superio sraphics to any other console on the SAVE $£ 24$ superior graphics to any other console on the
market. As if that's not enough it's also cheaper market. As if that's not enough it's also cheaper
and with the promise of full motion video next year it's today's hot product




New Amiga CD32 Pack


## 36

 Rumbine Microbotics 32 bit 88 console around, it is now a fyly. expandable computer Add aust the best 32
ceyboard and printer and increase the memory to 8 Mb , connect to another Amiga, the keyboard and printer and increase the memory to 8 Mb , connect to another Amiga, the Che microbotics $5 \times 1$ is an internal expansion device that simply connects to your

KEYBOARD OpTION Add a key simply plugging into the SXI and turn Your CD 32 into a real computer

EXTERNAL FLOPPY Drive Option and have access to the thousands of fow and have access t.

cost Amiga tites.
Printer Option Now that you computer, why not add a Panasonic Printer computer, why not add a Panasonic prine
and enjoy serious graphics and Word Processing.

## Memory

EXpansion Module Increase the BMb by the simple addition of findustry stan-

## New CD32 Owners

Can now enjoy all of the adrantuges of real computing by adding a a keyboard and ocher standard perpherals. Add a floppy
drive and enioy access to thousands of drive and enjoy access to thousands on
low cost Amign uites. Add a printer and low cost Amigg tites Ad a apmiter and
move into graphics and word processing Thove into graphics and word processing
 SYIRDTE PRICES SXI CD32
Expansion Module
4139.99
645.99

CD32 keyboard 255.999
448.99 Zappo Drive sale price 448.9
€535.99

## Amiga CD32 Software Titles

| Dangerous Streets | (2995 | 619.99 |
| :---: | :---: | :---: |
| Deepcore | 02597 | 616.99 |
| Sensible Soccer | 02497 | 617.99 |
| Mean Arenas | 549.19 | 619.99 |
| Nigel Manselts World Championships | 20.99 | C19.99 |
| Morph | 2909 | ¢19.99 |
| Overkill / Lunar | 29.99 | 619.99 |
| Pinball | C32.09 | ¢21.99 |
| Pirates Gold | 20998 | 619.99 |
| Zool | 29099 | 619.99 |
| Alfred Chicken | (25.99 | ¢16.49 |
| Castles 2 | 2099 | ¢ 19.99 |
| Chambers of Shaolin | 025.99 | 617.99 |
| Liberation | 53499 | 622.99 |

## Commodore 1942 Dual Sync Monitor



This new monitor has been spe-
cially designed for the New Amiga 1200 and 4000 computers in order for you to enjoy cheir fantastic graphics to the full. The 1942 Monitor features built in stereo speakers.

## £347.99

## Sharp Monitor / TV



The superb Sharp 14"Monitor / provides a real alternative to a Commodore Monitor with full function remote control 39 channel electronic auto search tuning, digital on screen display and 1.5 watt Mpo audio output. All you need to know is the low low price. The Sharp Monitor / TV is the product for you complete with seart socket and connectivity cable and including 12 months Warranty, E169.99

## 2 Mb Smartcard

The original and still the only fully PCMCIA compatible memory card for the A600 and Al200. Comes with lifetime guarantee. Beware of cheap immitations.
INDI PRICE 699.99
4 Mb Smartcard
Same as above but maximum 4 Mb .
INDI PRICE $£ 155.99$

Commodore 1084 Stereo Monitor


The Commodore 1084s Stereo Monitor. Compatible with all Amiga products. Featuring
*Stereo Sound

* High resolution display
* Ergonomic Design
* Full Amiga Connectivity Pack
£189.99


## Zappo External Floppy Drive



You've seen all the reviews
on this popular and affordable second Amiga drive. "Compatible with all Amigas Quality 9 out of 10 ." Exceptional value for money. Amiga Computing
£48.99 New Low Price IDE
Internal Hard Drives

Indi can now offer top quality $2.5^{\prime \prime}$ Internal Hard Drives for the Amiga 600 and 1200 at unbeatable prices. All drives come complete with cable and installation software.

## $80 \mathrm{Mb} 2.5^{\prime \prime}$ Internal HD's $\quad 6189.99$

$120 \mathrm{Mb} 2.5^{\prime \prime} \quad$ Internal HD's $\mathbf{6 2 0 0 . 9 9}$
I70Mb 2.5" Internal HD's $\mathbf{6 2 3 9 . 9 9}$

[^0]
## Panasonic

Wharacarched the colour printer market in great depth to find a colour printer good enough to cope with Amiga's powerfut output, yet at an affordable price. We found che perfect Pureflin the KXP 2123 Quiet Printer. We then considered that if you were going to buy a colour printer you would probably need a puality word processing package to use with it. We pre a copy of Wordworth free with every Panasonic Printer, Of course you might be the fortunate own

## Panasonic $\quad K X=P 2 \mid 23$

The new high performance Panasonic KX-P2123 24 pin, Quiet colour printer offers leading edge quiet printing technology at an affordable price.
Fast Printing Speeds 192 CPS draft, 64 CPS LQ and 32 SLQ.
7 Colour palette (blue, red, green, yellow, violet, magenta, black) Super quiet $43.5-46 \mathrm{dBa}$ sound level (most matrix printers are typically in excess of 60 dBa )

$$
£ 209.99
$$

7 Resident Fonts Over 152,000 type styles using Super LQ. Courier Prestige, Bold PS Roman, Script and San Serif fonts. 24 Pin Diamond Printhead High performance and high quality output. for total peace of mind

E WHIST STOCKS LAST -DUSTCOVER -COLOUR RIBBON -BLACK RIBBON

## Free Word Processing Option

## WORDWORTH AGA COMPLETELY FREE! <br> WITH PANASONIC OUIET PRINTERS. The witer's chice The

 WITH PANA SONIC OUIEI PRINTERS. The whie's choice The utimate word processor for

 Coilins Spelchecker and deasyrus no other Word poccessor comes dose Withou doubr, this is ove of

## SOETWARE OFIIOU FREE GAMES OPTION

## Frontier Elite II

You may choose from many diferens roies from explorer to assasin, from stodbroker to trader. Battue with
pirates across a galixy of ifferent worlds, trade or smuggle goods or. birates acrosss ag giax of ititerent wordis, trade or smugele goods or is complecter open ended FRE

The ulimute in space edrenare fronder is.



## Batman Returns

An exciting program from the first film simulation. Vastly different to the console version with vivid scenes straight from the hit movie. Batman has returned in style.
629.99

New Ulitra - Compact LED Page Printer Announcing the Panasonic KX - P 4400 LED Page printer, the printer that fits virtually anywhere. Ultra small foot print $(12.7 \mathrm{~cm} \times 38.1 \mathrm{~cm}$ ex trays) and under 6.5 kg , this printer travels with you

- 4 pages per minute of crisp. 300 dpi laser quality output.
100 sheet, multi purpose paper tray (A4, letter, legal and executive) 28 internal bitmapped fonts HP laserjet series IP
1 Mb Ram expandible to 5 Mb 1600 copies per toner. I Year On Site Warranty



## Printer Accessories

12 Panasonic Automatic Sheetfeeder 80 A 4 shees
INDI PRICE 689.99
N) Printer Dust Cover
2)

Phasonic $K X-2123$ printer
1NDI PRICE E8.99
I- Piece printer stand
INDIPRICE 69.99
4. Paper Pack
-500 sheers of guality A4 paper
iNDIPRICE $29.9 \%$
5) Continuous Paper

ZOOO sheets ${ }^{2}$ ' part listing paper
iND PRICE 19.99
${ }_{6}{ }^{6}$ Parallel Printer Cable
Po be used when connecting Amiga to
INDI PRICE EB .99

7 Panasonic Colour Ribbon Eolour ribbon for KX-P2123
iNDI PRICE 12.99
 -Black ribbon for KX-P2233 INDI PRICE 66.99
Pack L ACCESSORY PACKS
Panasonic Colour Ribbon Pack
Contains 6 colour ribbons for the KXP 2123

Pack 2
Panasonic Deluxe Accessory Pack
Contains automatic sheetfeeder, 2 bltack ribbonss 2 colour
ribbons, I Iust cover. 2 piece printer stand RRP 16999 rivbons, RIUst cover. 2 piece printer stan
Panasonic Ribbon Pack
Contains 2 black and 4 Colour ribbons for the KXP 2123 RRP INI PRICE $<59.99$ Save $£ 40$

## Indi Direct Mail Customer Charter

INDI DIRECT MAIL is original and very exciting. Before you buy mall order you must first be confident that you will receive the product youve ordered and that the supplier will still be there
future, should you need them. fuuture, should you need them. A mail order purchase from INDI is a safe and secure decision and here's why. Indi is a wholly owned subsidiary of a public company now in its eleventh year of trading and specialising in the supply of
With a group turnover approaching $£ 30$ million per annum, INDI have the resources and the purchasing power to offer you the best deals, deliver them next day nationwide and always be around when you need us.

## No Deposit Credit

Indi are now able to offer Competitive Credit Facilities on all orders over 6100 subject to status. Payment can be over 12,
$14,36,48$ or 60 months and can include insurance to cover repayments on the event of sickness or unempoyment,

## EXPORT

NUMBERS
N. 44154341090

FAX (4) 5 543 418079
Please send I).
2)
3)

Pric
Pre............................ + Delivery
No.
No.....................Expiry............./......Signature.
Name.
Address.

Postcode
TEL: 0543419999 FAX: 418079

## contentis



## Nine pages for enquiring minds

The most authoritative monthly columns in the business, covering all areas of specialised Amiga activity

ARexx

## 132

In the second part of bis ARexx grapbics series, Alex Gian sbous bow sometimes ARexx can actually be better than low-level languages

Video
What to look out for as the rest of the shoot burtles by in the fifth instalment of Adam Pbillips's vivid netelling of the video-making story

Music
137
Paul Overaa takes a look at a ptece of Midi diagnostic barduan' guaranteed to belp Midi users avoid unnecessary fault-finding grief

Comms
Comms bead Phil Soutb proves tbat be can listen sometimes too by ansuering some of your comms questions

## Amos

Our Amos guni Pbil Soutb looks at DIY file requesters, and examines the best way to program the file-selecting little blighters

Publishing
143
Ben Pointer uith more bints and tips on bow to get tbe very best results wben producing documents on jour Amiga

## FEATURES

## Babylon 5

The man behind the most impressive Amiga movie ever made


## Wolves

Adam Phillips takes a trip to the Molineux to see the biggest Amiga monitor in the world

## Survival guide to monitors <br> Buying a new monitor can be terrifying. Let $A C$ provide a clearer picture

## Emulation

Can you really squash a Mac and a PC inside your Amiga? Denny Atkin says you can

## Amiga guide

Steve White starts the first of a two-part adventure into the Amiga Guide

## Updates

ImageFX takes a step up and Clarity 16 enjoys a stylish new software revision

## REVIEWS

## Vidi Amiga 24 RT

The latest in instantaneous frame grabbing in 24 -bit colour

## Humanoids

Ultimate 3D modelling from the creator of Cycleman


BJ600


The Canon success story goes on

## A2A



## GAMER

Packed and pulsating with the latest hot releases, Gamer is the definitive guide for true game fans


## GAME REVIEWS

| Star Trek | 108 |
| :--- | :--- |
| Jurassic Park | 110 |
| Fantastic Dizzy | 112 |
| Cool Spot | 114 |
| Pirate's Gold CD32 | 115 |
| Skidmarks | 116 |
| F1 | 118 |
| Labyrinth CD32 | 120 |
| Tornado | 122 |
| Campaign 2 | 125 |


| $4 \times 1$ C 4 |  |
| :---: | :---: |
| M A |  |
| The ultimate computer shopping section swings into action with more unbeatable bargains |  |
| Shop Window | 150 |
| KX-P2123 | 150 |
| Upper Disk Tools | 151 |
| A1200 Beginners Pach | 152 |
| VideoMaster ACA | 152 |
| Stars of Yesteryear | 157 |
| Classifieds | 158 |
| Advertising index | 160 |
| Hard Times | 16 |



# New Software for a New Year 

## Business Applications



Both SBase Personal and Professional are full-featured, fully relational and powerful databases with pull-down menus, multiple windows and full access to your Amiga's multi-tasking environment the AGA chip set.

SBase Professional includes a powerful database management language and supports ARexx. Pleas call for our datasheets on these superb products.

We are pleased to announce that HiSoft is now the authorised UK contact point for Oxxi's SBase 4 Amiga products (formerly known as Superbase). We have stock of both SBase Personal 4.1 g and SBase Professional 4.1 g and offer full technical support for these programs with our Silver and Gold support options. We can also offer upgrades from earlier versions - please call or fax for detaits of upgrades and technical support.

## SBase 4

## Professional

 Personal

This is the utility that you simply must own! Maxon Magic is a funtastic combination of 15 different screen savers, a system event sound player and many amusing sampled sounds that will not only be incredibly useful but will give you and your friends endless enjoyment as well.


## Maxon Magic

\author{


The Maxon Magic screen saver works in all modes, even with graphic cards, and offers you a choice of 15 different amusing and entertaining modules such as Aquarium, Flying Breakfast, Fireworks, Cnazy Worms, Messages, Clock etc. As if that isn't enough value for money, Maxon Magic also lets you assign sounds to most system events including Window/Screen open \& close events, Alerts, Keys, Mouse clicks, Requesters and more. Choose from the many sounds provided or simply use your own sampled IFFs! With Maxon Magic your Amiga will never look or sound the same again!

## 睹 <br> Video/Music



The best-value real-time video digitiser you can buy; VideoMaster gives you the ability to record real-time monochrome video with sound at 25 frames per second as well as quality full-screen stills from your camcorder or video recorder. VideoMaster RGB includes our new colour splitter, ColourMaster, and produces amazing quality colour stills. VideoMaster AGA works on the A1200 and A600, connects via the PCMCIA slot for extra speed and freedom to use other peripherals, allows high quality stereo sound and supports HAM6 and HAM8 up to $640 \times 512$ resolution for stills.


ColourMaster
ColourMaster is a new electronic colour splitter which works in conjunction with VideoMaster for stunning colour stills.


Clarity16 is our premier sound sampler allowing rates up to 32 KHz in 16 bit stereo and up to 48 KHz in 16 bit mono on an A500; accelerated machines can handle faster sampling rates. The software provides extensive features including full edit control, a MIDI keyboard emulator, a sample sequencer, many special effects and FFT analysis. Version 1.5 has an up-to-date Workbench 3 look, in its own window and is fully compatible with faster Amigas.


Megalosound is the new 8 -bit, stereo, direct-to-disk sampler package; the software is packed full of easy-to-use editing features, special effects and extras such as the ability to print waveforms and sample information. The package allows sampling up to 84 KHz mono and 56 KHz stereo to memory and up to 21 KHz stereo to hard disk on an A1200. Supplied with a hardware volume control and an extensive 144 -page manual, Megalosound is impressive value at only $£ 34.95$.

If you have difficulty obtaining our new titles, just call, quoting your Access/Mastercard/Visa/Switch/Connect card number and expiry date and we will despatch the goods within 5 working days. For an extra $£ 5$ we will despatch the day of despatch the goods wiforce 24 hour service. Ask for our new 32-page catalogue.
order by ParcelForce

# N E W S <br> CD32 assault continues 

THE CD32 assault has continued recently with Commodore launching the revolutionary console in the United States and finally announcing availability of the full motion video module.

Industry experts believe that in order to enjoy long-term success the player must take off in the US, a market which Commodore have so far failed to crack.

But its launch at the Las Vegas Consumer Electronics Show was a low key affair. Software houses gave it their support in small meeting room containing half a dozen machines.

Around 100 games titles were promised by the time it goes on sale there in the next few weeks. It will cost $\$ 399$ and be packed with Pinball Fantasies and Sleepwalker.

Back in Britain, the full motion video is now on sale and Commodore claim it can transform the console into the world's best home entertainment package.

When fitted, the $£ 199$ device enables up to 74 minutes of movies and music videos to be played from a compact disc.

## Films available on a CD32 near you...

## Fatal Attraction

Ghost
Hunt for Red October
Indecent Proposal
Indiana Jones and the Temple
of Doom
Naked Gun 2 K

Patriot Games
Raiders of the Lost Ark
Star Trek
Star Trek VI
Top Gun
The Untouchables
Wayne's World


Las Vegas: Massive Consumer Electronic Show used for US CD32 launch
The module is based on Mpeg1 technology called Video CD - a standard agreed between industry giants Commodore, Philips, Sony, JVC, Matsushita and Paramount Home Video.

Video discs have already started to appear, many of them from Philips using a slightly different format called Video CD-i, but compatible with the Amiga system. They cost from $£ 15.99$ each, and among the first 50 films are hits Top Gun, Naked Gun $21 / 2$ Patriot Games and Wayne's World.

First music discs, meanwhile, include Andrew Lloyd Webber's Premier Collection, Brian Adams's Waking up the Neighbours and Inxs's Live Baby Live.

Commodore boss David Pleasance said: "Amiga CD32 cannot be matched as a games machine. Now it can offer movies and music video too.
"It really is the first machine on the market to offer all forms of electronic entertainment in one box."

## Holograms to cut CD piracy

A MEASURE aimed at cutting illegal copying of compact discs has been announced as figures from the International Federation of the Phonographic Industry show CD piracy is on the up.

According to the IFPI, the number of pirated discs printed or imported into Britain during 1992 was 700,000 . In the year before there were hardly any.

Now with the computer games industry eager to move to this "piracy free" media, there are worries that it won't be long before it too becomes noticeably affected by illegal copying.

At least one company has announced details of a counter measure which aims to identify discs as authentic. By printing holograms in colour on CDs, Sussex-
based Disctronics say they have made it virtually impossible to copy discs without expensive equipment.

Although copied discs would still work, customers would be able to identify genuine products and avoid buying substandard imitations.

Disctronics say the security adds very little cost to the software development.
"We feel this must be a good, simple and low-cost step towards security," said the company's chief executive David Mackie.
"We believe it is the responsibility of the company to provide security features which allow customers to know they are buying the real thing.'

## Graphics z00m along with Warp

ZORRO-based Amiga owners will soon be able to transform their machines into some of the world's fastest and most advanced computer systems.

Warp uses high-performance parallel Risc processors to deliver super-computer power to people running ray-tracing and other high-end graphics applications.

It consists of a base board containing a single processor and the trans-puter-based system has slots for two extra processors.

A network connector allows external boxes to be fitted and further processors to be added, and has support for SCSI-II controllers and DSP display modules.

## INCREDIBLE

Each chip adds 30 million instructions per second to the computer's speed, with 40 modules carrying out an incredible $1,200 \mathrm{mips}$. An unexpanded A4000 operates at about 18 mips .

A software driver makes the system compatible with Amiga software including Real 3D, Vista Warp, Imagine, Art Department Professional and Aladdin 4D.

But it needs to be switched off to ensure the computer is compatible with other programs.

Warp will be sold in Britain from April through London-based SatLink (071-371 7471). Prices are expected to be around $£ 1,330$ for the base board and $£ 800$ for each module.

Towards the end of the year, an even faster version of the product based on the T9000 processor will increase the computer's speed in steps of 200 mips .


## 33 Ormskirk Rd,

 Preston, Lancs, PR1 2QPLadbroke Computing International are one of the longest established home computer dealers in the U.K. We have developed an extensive the U.K. We have developed an extensive
customer service policy which involves testing customer service policy which involves testing
of all hardware prior to despatch to ensure that of all hardware prior to despatch to ensure that
goods arrive in working order, offering free advice and support over the phone and keeping customers informed. Although our prices are not always the cheapest we do endeavour to offer consistently good service and backup.

All prices/specifications are correct at copy All prices/specifications are correct at copy
date $24 / 1 / 94$ (while stocks last), and are date $24 / 1 / 94$ (while slocks last), and are
subject fo change without prior notice. All subject to change without prior notice
prices include VAT but exclude delivery.

How to Pay
You can order by mall Cheques/Postal Orders made payable fo Ladbroke Computing. Or give your credit card details over the phone

## Delivery

Postal delivery is available on small items under £40 (Normally £3, phone for details) Add $£ 7$ for courier delivery. Next working day dolivery on mainland UK subject to stock ( $£ 20$ for Saturday delivery).

Open Mon-Sat 9.30 am to 5.00 pm . Ladbroke Computing Lid trading as Ladbroke Computing international.

Fax: (0772) 561071
Tel: 9am-5.30pm (5 Lines)
(0772) 203166

## MIU Printers



Star
Star LC100 Colour $£ 149.99$
Star £179.00
Star LC24/30 Colour £249.00

- Built in 55 sheet feeder
- 24 Pin Colour

Starjet SJ48 Bubblejet $\quad £ 210.00$
Star SJ144

- Thermal max transfer colour printer
- 144 element head
- Glossy colour output
- 360 dpi resolution


## Citizen

Citizen Swift 240 Colour $£ 270.00$
Citizen Project
£209.00
Hewlett Packard
HP Deskjet 510
£309.00
HP Deskjet 500 Colour $£ 389.00$
HP Deskjet 310
£239.99

## Lasers

Ricoh LP1200
$£ 699.00$
Add $£ 3$ for Centronics cable and $£ 7$ for next working day courier delivery.


- Quantum SCSI Hard drive
- Ultra fast 11 ms access
- Up to 8 Mb RAM on board
- 2 year warranty


## SPECIAL OFFER

170MB NO RAM $£ 349$
240MB NO RAM
$£ 399$

2Mb SIMM Upgrade $£ 59.99$ 4Mb SIMM Upgrade $£ 119.99$

## GVP 286 Emulator <br> - 16MHz 286 PC Emulator <br> - Norton rating 15 <br> - Plugs into GVP II HD <br> GVP PC-286 Emulator <br> $£ 89.00$



- Ergonomic design
- 320 dpi resolution
- Easy to use
- Microswitch buttons

ONLY £29.99

## GVP Genlock

- Video processor provides real time software control of brightness, contrast, saturation, hue, sharpness, filtering, gain etc. - Audio processor with two audio inputs, software switchable or mixable, with software control of Volume, Bass and Treble effects. G-Lock Genlock
£284.00


## A1200 Hard Drives <br> A1200 Hard

Plugs into PCMCIA slot Fully external, doesn't affect warranty
170 Mb Overdrive $£ 349.99$ Phone for higher capacities.

## IIUMiga Packs Amiga packs

## Amiga A600 Lemmings

Pack
£184.99
Includes A600 with 1Mb RAM, Lemmings
A1200 Race \& Chase £289.99 Includes A1200 with 2Mb RAM.
Trolls and Nigel Mansell A1200 Desktop Dynamite $£ 339.99$ Includes A1200 with 2Mb RAM, * Digita Wordworth, Digita print manager, Deluxe Paint IV, Dennis, Oscar
Amiga CD32
£289.99
2Mb RAM. Dual Speed CD ROM.
Multi session, plays music CD's,
256000 colours on screen, includes 2 games Oscar and Diggers.

## Amiga 4000030

£999.00
Includes A4000, 030 processor, 2 Mb Chip RAM, 80 Mb Hard drive.


## Turkinse Mouse

- 290dpi resolution
- 2 Microswitched buttons
- Opto/Mechanical mechanism
- Switchable between Amiga/ST
- Direct Mouse Replacement


## Eklipse Mouse

$£ 11.99$

## Trloppy Drives

- 880 K formatted capacity
- Double sided, Double density
- Through port

Cumana CAX 354
$£ 54.99$
Amiga 500 internal drive $£ 49.99$

## RAM Upgrades

A500 512K upgrade
£14.99
$\mathrm{A} 500+1 \mathrm{Mb}$ upgrade £19.99
A600 1Mb no clock
£29.99
Plugs straight into A600 trap door compatible with A600, A600HD

## A1230 Accelerator

- 40 MHz 68030 accelerator
- Makes your Amiga 1200 run over 7 times quicker.
- Allows up to 32 Mb RAM
- Optional FPU

A1230/0Mb/No FPU £289.00
A1230/4Mb/No FPU $£ 429.00$
A1230/4Mb/68882 FPU $£ 529.00$


Samsung C13352X £179.99 $14^{*}$ SCART input TV with remote control and on screen display (requires SCART cable for high quality display)
Commodore 1085S
£189.99
Commodore Colour Stereo
Monitor including cable
Microvitech 1440
£399.99
The Microvitec 1440 is a multisync monitor compatible with the A1200. Includes setup memory for different resolutions.
Colour SVGA Monitor $\quad$ £229.99
High quality Colour SVGA Monitor .28 dot pitch.
A1200 VGA adaptor $£ 14.99$
Falcon VGA Adaptor $£ 9.99$
Philips SCART to Amiga $£ 9.99$
8833 MKII to Amiga
$£ 9.99$

## Falcon 030

- 16 MHz 32 bit 68030 Central Processor, 16 MHz Blitter, 32MHz 56001 Digital Signal Processor
- $1.44 \mathrm{Mb} 3.5^{*}$ Floppy, up to 14 Mb RAM. Displays 65536 colours from 262144 palette
- 8 Channel, 16 bit, high quality Stereo sound sampling
FALCON 1Mb No HD £499.00
FALCON 4Mb No HD £699.00
FALCON 4Mb 64Mb HD $£ 799.00$
FALCON 4 Mb 127 Mb HD $£ 899.00$
FALCON 4Mb 209Mb HD $£ 999.00$
Falcon Screen Blaster $£ 89.00$


## Repair Services

Our Service department can repair Amiga's in minimum time at competitive rates. We can arrange for courier pickup and return delivery of your machine to ensure it's safety. We even have a same day service which will ensure your machine is given priority and subject to fault, completed the same day. We offer a Quotation service for $£ 15$ for which we will examine your machine and report back with an exact price for repair. If you do not wish to go ahead with the repairs then just pay the $£ 15$. However if you do go ahead then the charge is included in the minimum charge. Please note: The minimum charge covers labour, parts are extra.

| Quotation service | $£ 15.00$ |
| :--- | ---: |
| Min repair charge | $£ 35.25$ |
| Courier Pickup | $£ 11.00$ |
| Courier Return | $£ 7.00$ |
| Same day service | $£ 15.00$ |

## Phone help

A NEW consultancy service has been ne elor Videoworld Multimedia (041(611 110) catering for people who need the technical support for Amiga setherre and hardware.
Services offered include telephone help, scanning/frame grabbing, profesthrut colour printing from IFF files and pablic domain distribution.

The helpline is available between 4 mm and 9 pm and provides advice on Workench, graphics, video, desktop publishing and other productivity seftware.
Customers need to pay an annual registration fee of $£ 15$, which gives unlimited access to the helpline - which costs an extra 48 p per minute (peak) and 36 p per minute (off peak).

## Accessing CD

CD-ROM drives which fit into the 5.25 in bay of the top-end Amigas are now available to enable owners of the computers to read CDTV, CD32, PC and Macintosh compact discs.

Three versions are available, each aimed at users who want to access a wide range of clip art and public domain files.

Leeds-based First Computer Centre (0532 319444) expect the $£ 219.99$ Toshiba XM4101 to be the most popular. It has a 300 millisecond access time and 317 k per second data transfer.

A driver is supplied to allow the compact discs to be used with A1500, A2000, A3000 and A4000 machines, although none of the drives allows CD32 software to be run.

Prices depend on specification, with each drive offering different access times and transfer rates. The XM4101, however, is the cheapest at $£ 219$.

A SCSI interface is also needed, with First Computer Centre supplying a device for $£ 122$.

## Speeding up

GREAT Valley Products have announced details of their fastest accelerator yet, the A4000 GForce 040 .

It uses a 68040 processor running at 40 MHz , and can be fitted with up to 128 Mb of 32 -bit Fast RAM.
An expansion socket provides signals for a SCSI-II fast module that gives data transfer rates up to 10 Mb per second when used with high performane hard drives.
The board fits into A3000/T and A4000/T computers, and is due for imminent release. British distributor Silica Systems (081-309 1111) say the price remains to be fixed.

## First time troubles cut

FIRST time printer buyers are targeted for Citizen's new ABC 24 -pin dot matrix machine which, claim the manufacturer, is the easiest-to-use machine on the market.

Billed as a true plug and play printer, Citizen say that newcomers will be able to install and use it within five minutes of opening the box.

The $£ 222 \mathrm{ABC}$ avoids complicated control panels and set-up procedures, and is configured for use with the Amiga by EasyStart software packaged with the machine.

EasyStart provides users with a step-bystep on-screen graphical guide to installation, walking them through the complete process of setting up the printer and preparing it for use.

It has been designed for use in the home and small office, where Citizen believe that many potential customers find computers and printers intimidating.
"Our mission was to develop a printer that really is as easy as ABC ," said Citizen's group product manager, Andy Martin.
"We conceived EasyStart as an interactive, graphical tutorial that guides you through connection, set-up and paper loading.
"Above all, we wanted to make the Citizen ABC amazingly friendly and fun to use."
Other features include a print speed of 160 characters per second in draft mode and 53 cps at 10 characters per inch. Memory is 8 k and it has a resolution of 360 dots per inch. Optional extras are a colour kit, push tractor feed and 128 k memory.

## Cheelky ad targets Sega

COMMODORE would have had difficulty finding a cheekier position to place their Sega-knocking CD32 advertisement over Christmas.
The aggressive "To be this good will take Sega ages" ad appeared next to Sega's office on Cromwell Road, London throughout the festive period.


CD32: Ad strikes close to torget

## Upgrades boom follows deal

AN AGREEMENT just signed between Power Computing and US-based DKB Software is promised to bring more upgrades to Amiga owners in Britain.

The first is a SCSH-II card which enables A3000 and A4000 owners to connect up to seven extra devices to their computer.

Once plugged into the machine's Zorro III expansion slot, the DKB4091 allows peripherals such as hard drives, CD-ROM drives, tape back up units, image scanner and printers to be used.

Its makers claim the $£ 399$ card provides the maximum transfer speed for data intensive multimedia applications, and it has a slot to enable a 3 .5in hard drive to be fitted on the board. Other upgrades include a board which expands the A1200's memory up to 8 Mb . It has two sockets and prices start at $£ 169.95$ for a 2 Mb version with a maths co-processor.

And for people wanting to increase the memory of high-end Amigas, the firm will soon be selling a board which gives A3000s and A4000s a massive 128 Mb of RAM. Within the next few weeks a 68030 accelerator will be launched for the A1200. It will also allow up to 128Mb of extra memory to be added.

Bedford-based Power Computing can be telephoned on 0234843388.

## Revolutionary painting package nears

A REVOLUTIONARY method of painting is set to appear on the Amiga with the release of a new high-end package aimed at broadcasters and other graphics professionals.

The as yet unnamed program breaks away from normal ways of painting on the Commodore computer, instead using multiple layers of "glass".

Previously this kind of application cost around $£ 100,000$, but the new package just needs an Amiga fitted with a 32 -bit graphics board.

Exact details remain sketchy, but its British distributor says the program will be capable of building images from several elements or as a rough.

Some television adverts are already made in this way, with up to 50 layers of video producing effects that look realistic to the eye.
"After seven years without anybody improving on Deluxe Paint we have a new idea on how painting should be produced - it's revolutionary," said Amiga Centre Scotland boss Martin Lowe.
It is expected to be available from ACS within the next couple of months. Its price remains to be fixed.

## CompuServe slash connect costs

ONLINE information giant CompuServe have slashed connect charges for hourlypriced services by around 40 per cent.

The US-based firm says the cuts have been made possible because advanced technology has resulted in lower operating costs.
"We are pleased to pass these savings on to our members in the form of substantially lower connect rates," said Barry F Berkov, CompuServe's executive vice president.
"We have the financial strength and stability to allow us to reduce our rates while continuing to offer the most extensive range of services in the industry."

Areas affected by the savings include interactive forums, premium travel services, financial services, reference databases and entertainment.

Someone accessing the services using a 1,200 or 2,400 baud modem now pays about $£ 3.30$ an hour compared to the old rate of $£ 5.50$. Other baud rates see similar cuts.

## Dance record due for Amiga

MUSICIANS from around the world have joined forces to produce a collection of dance and techno tunes for a record due at the end of May.

Between 15 and 20 tracks are expected to be included on the Amiga Experiment compact disc, all of them generated using the Commodore machine.

The project started last autumn when Newcastle-Upon-Tyne man John Atkinson and local Time Stretch recording studio saw an Amiga demo.
"Seeing the Space Ball rave demo we became impressed by the Amiga's amazing sound capabilities," John Atkinson told Amiga Computing.

An advert was placed in the computer press asking for musicians to contact him and from the 66 people who responded 11 were picked to be involved with the record.

The collection will be compiled on an A500P using tracker program OctaMed which, with its Midi ability, Atkinson considers to be the best software for the group's needs.

It is planned to cost $£ 6.50$ and will be sold by mail order and through public domain libraries.


Music: Engineer Rob Meek (left) and John Atkinson mix 16 tracks to DAT master

## Complaints over computer use

DESPITE the increased sales of computers over recent years, only one in five Britons find them easy to operate and millions more have other complaints about their use.

That's the finding of a Gallup survey, which also shows people think computers have made business unnecessarily complicated.

Only one in 20 of the 1,000 people questioned believed computers helped running a home or family, with a large number of them saying they will never buy a machine.

The survey also showed concerns about the price of computers, that children spend too much time playing games, and over the spread of computer pornography.

On a more positive note, half of Britons consider computers a must in today's society and nearly as many people think they have made business more sophisticated.

## Driving quality improves

THE EXTERNAL Overdrive hard disk for the A1200 has been improved with a new controller and higher quality casing and power supply.

It is available with either 250 Mb or 340 Mb of storage capacity and has an average data transfer rate of 1.5 Mb per second and a maximum of 2.5 Mb per second.

Dealer Special Reserve ( 0279 600205) say early reliability problems have now been overcome.
"The new hard drives have been fully tested and found to be reliable, capable and fast," a spokesperson explained. "They are substantially faster than 2.5 in internal hard drives."

Prices are around $£ 299$ for a 250 Mb model and $£ 379$ for 340 Mb capacity.


Overdrive: Improvements and better rellability

## Survey to report on security breaches

THE Government are carrying out a national survey to find the extent of computer security breaches experienced by British firms.

It will find the costs of violations to companies, identify major causes, give evidence about the level of computer misuse and give an indication of user-awareness of security issues.

Ten thousand firms are taking part in the survey and its results are expected early this year.

The last study in 1991 found that more than half of business had suffered from security problems at an estimated total cost


## DIARY DATES

April 10-12, 1994
European Computer Trade Show
Venue: Business Design Centre, London Organiser: Blenheim On-line (081-742 2828)
Europe's largest trade show for the computer and video games industry.

April 16, 1994
Spring All Micro Show
Venue: Bingley Hall, Staffs
Organiser: Sharward Services (0473 272002)
Last autumn's show contained 70 exhibitors - some with Amiga software and hardware.

## April 22 to 24, 1994

MEMS '94
Venue: Wembley Conference Centre, London
Organiser: Westminster Exhibitions (0222 512128)
Britain' leading Midi and electronic music show, with many household name firms attending.

September 20-25, 1994
Live '94
Venue: Earls Court
Organiser: News International
(071-782 6893)
Commodore have already pledged their support for this large consumer electronics show.

## October 6-9, 1994

BBC Big Bash
Venue: NEC, Birmingham
Organiser: Haymarket Exhibitions
Future World area of this big show will contain the latest computer games and virtual reality.

October 26-30, 1994
Future Entertainment Show
Venue: Earls Court II
Organiser: Future Exhibitions
(0225 442244)
The biggest public show of computer and video games players and a chance to see Christmas releases.

## Overseas

March 16-23, 1994
CeBIT 94
Venue: Hanover, Germany Organiser: Deutsche Messe (010 49511890 )
Europe's premier information technology show often used by Commodore for the launch of new hardware.

# 1 MediaPoint multimedia magic for the Amiga 

MediaPoint is the state-of-the-art in interactive presentation software. No other software package on the Amiga has this many features in the standard package. Some of the highlights:

## MediaPoint is professional:

- Script synchronization on standard time, SMPTE and MIDI.
- Play full motion video and samples from harddisk. Supported animation formats: anim-5, 7 \& 8 and (AGA) CDXL.
- Over 150 smooth screen and object transitions.
- Use buttons to create interactive scripts for mouse, keyboard and touch screen.
- Script events can be scheduled to be displayed on specific days and times.
- Use ScriptTalk ${ }^{\text {TM }}$ language to create customized scripts with variables, conditional jumps and ARexx support.


## MediaPoint is easy to use:

- Cut, copy, paste and undo for all page and script editor functions.
- Script parts can be collapsed and exploded.
- Text editor allows a different font, size, color and style per character.
- Antialiasing per character color, not to just one color.
- Frame-oriented page editor with solid, pattern and transparent frames. Over 50 frame transitions.
- Duplicate, centre, align, lock and group move functions for frames.


## MediaPoint means good looking, fast graphics:

- Import any Amiga graphics file including 24 bits.
- Scale and remap to any (AGA) graphics mode.
- Save page layout including text and graphics for use in other scripts.
- Ready to use clipart, maps, pictograms, fonts and sounds included.
- Fast color thumbnails in file requester for easy file browsing.


## MediaPoint is modular:

- Xapp™ modules for GVP's IV-24, Studio 16 cards, MIDI, CDTV, LaserDisc players, VCRs, still video players. Coming soon: Video Toaster xapp.


## MediaPoint is complete:

- Standard bundled languages: English, French, German and Dutch.
- Free runtime player.
- No hardware key protection.

MediaPoint is a trademark of MediaPoint Int. All other brand names are the property of their respective owners. For more information:
Activa International Inc: +31-21-538-0639, Fax: +31-21-538-0679.
Activa Technical Support UK: 081-402 5770, BBS 081986 5964. Fax: 081-402 5780

Commodore info Main Menu


Interactive Information Systems


Information Channels


Presentations

when Commodore previewed CD32 at North American World of Amiga shows, they hinted that the major US unveiling would be held at the Winter Consumer Electronics Show in Las Vegas, Nevada.

Commodore did have a tasteful booth, but unlike the 3DO, CD-i, and Sega booths -which were smack dab in the middle of the floor with literally thousands of people passing them each hour - Commodore chose to exhibit in a room upstairs away from the hustle and bustle.

So while CD32 was there to see, and looking competitive compared to 3DO and blowing CD-i right out of the water, only about a dozen people were in the room to see it each time I walked by.

That's been Commodore's problem in the US for years now. Instead of putting their all into getting the attention of the masses, Commodore have relied on getting the word out to a small group who actively seek them out and hoping those folks will tell their friends.

Commodore did stage a press conference, and that played to a packed house. They started the conference by mentioning that the company had annual sales of $\$ 600$ million (a few years ago it was $\$ 1$ billion), arl that there have now been more than five million Amigas sold.

Commodore now feel that their US market is in video workstations, while the

## Denny Atkin on Commodore's cautious CD32 unveiling at the CES, and the rest of the news from across the water

## Low-key

 US launch for CD32European market is more consumeroriented.

In their bid to become a player in the US consumer market again, the company announced plans to release CD32 here in March. However, the company doesn't have the resources to mount a major national advertising campaign in a country this large, so they're looking to use some innovative techniques to get the word out.

These will include a CD32 Club and an attempt to get CD32 units and titles into rental outlets such as video stores.
Commodore said they had sold over

## ADPro gets better

Although the version number has only been bumped a little bit - to v2.5 - ASDG refer to the new release of Art Department Professional as "the most significant upgrade in its history".

Many long-time ADPro users will consider the user interface to be the upgrade's biggest improvement.
"We surveyed our customers and found that some preferred a list-oriented graphical user interface (GUI) for speed, while others preferred a button-oriented GUI for ease-of-use. "We implemented both and allowed them to be intermixed configurably."

ADPro 2.5 adds RTG (retargetable graphics) technology, so the new user interface can now be displayed directly on the screens created by third-party display boards such as the Picasso, EGS, Retina, and Video Toaster. ADPro can now render its images in a window on the same screen as its user interface.

ASDG have added CDXL, FLC, and FLI animation formats; Digital Broadcasting JStream; and ICO file format loaders and savers, as well as support for direct reading and writing of Workbench icon files.

If you own the Professional Conversion Pack, you'll also get support for SGI, Alias, and Wavefront files - professional stuff indeed!

The Fargo Primera colour printer - an impressive device that creates absolutely beautiful high-resolution colour output for about $\$ 1000$ - is now supported by ADPro in its dye sublimation mode. I've seen dye sublimation output from the Primera and it easily rivals photographic or typeset output.

An improved version of the FRED batch program and over 100 included ARexx files provide a wealth of full-motion special effects possibilities. ARexx programs can now be integrated into ADPro's customisable user interface.

Professional video and film users of ADPro will appreciate the new CineMorph utility (no relation to the GVP morphing program) which can convert streams of images between 24 frame-per-second film style and 60 field-per-second video-style time bases.

All of this is supported by much-improved documentation that now includes nine tutorials, more illustrations, and an expanded ARexx section.

The retail price of the program remains at $\$ 295$, and current ADPro owners can upgrade for $\$ 45$ plus shipping. ASDG have started accepting credit cards, so Visa, Mastercard, and American Express users in a rush for their upgrade can order it via phone now.

For more information, call 010608273 6585, or write to ASDG at 925 Stewart Street, Madison, Wisconsin 53713.

100,000 CD32 units as of the January show, and said they hope to be able to sell 300,000 to 500,000 CD32 units in the US in 1994.
Although many question their ability to sell that many units without a major advertising campaign, Amiga users here are hopeful that it will happen.
Recent visitors to Commodore's West Chester offices describe it as "a ghost town", and the entire software development crew is down to fewer than ten people now.
Commodore could certainly use the cash generated by a successful CD32 product to get its stagnant Amiga development back on
track. In Amiga computer-related news Lew Eggebrecht said that the CD32-compatible CD-ROM add-ons for the A1200 and A4000 were still in the works and he hoped they'd be available soon.

In an interesting side-note, he mentioned that Commodore had even considered the feasibility of creating CD32 add-ons for the PC and Macintosh, but at the moment no such products were planned.

When asked whether Commodore would release any new Amiga computers this year, Eggebrecht said yes, but declined to elaborate.

## Microbotics sold <br> Microbotics, one of the oldest Amiga hardware developers, have been bought by Paravision, a company with a video and connectivity hardware background. Paravision say they will continue to support and develop the current Microbotics product line, and will develop new products with a particular emphasis on A1200 and A4000 products. <br> Microbotics recently announced the Modem 19, a high-speed 19,200 bps modem available in both external and internal models for the Amiga. <br> Paravision's announcement of the purchase said that they have retained the former Microbotics management, technical, and engineering staff. The announcement also indicated that the team, in addition to developing Amiga products, will also be working on products for PC systems running Windows. <br> Although Paravision are based in North Ridge, California, the company will continue to handle customer service from the former Microbotics location in Texas. <br> For more information, contact Paravision, 1251 American Parkway, Richardson, Texas 75081, or call 0102146440043.

## Turn back the clock

Did you move up to your Amiga from a Commodore 64? Do you miss those casual old days of waiting for software to load off a 1541 disk drive? If so, Questronix's The A64 Package v3 will let you re-experience those days of eight-bit glory.

Although previous versions of A64 were shareware, this improved product is a commercial program. The package includes a small box that lets you attach C64 serial peripherals (disk drives and printers) as well as a thorough 104 -page manual.

The new version adds compatibility with all Amiga models (although AGA users will have to turn off mode promotion), much better speed and C64 compatibility, new SID sound emulation that sounds just like the real thing, and fast-loader support.

There's also GEOS compatibility for

68000 -based Amigas. The emulated C64 can appear to have a REU (RAM Expansion Unit) from 128 k to 2 Mb attached.

If you have a lot of C64 data files sitting around on 5.25 in disks, the A64Tools conversion utility's file-transfer capabilities alone will make the product worth the purchase price.

Other features include a utility to convert C64 programs into fast 68000 machine code and a full-featured C64 machine-language monitor.

For price and upgrade information, contact Questronix, PO Box 340265, Hartford CT 06134-0265, or call 0102036668260. You can also reach them at Questronix@genie.geis.com using Internet mail.

# You can't use Software this Powerful, and produce Documents this Good... 

If you're looking for a quality Word Processor/Publisher that performs as well as this, you may well start by searching through PC and Apple ${ }^{\mathrm{TM}}$ Macintosh ${ }^{\mathrm{TM}}$ software catalogues.

Even then though, you probably won't find a program that will combine the very best in Word Processing and... easy to use integrated DTP type facilities.

You certainly can't find software for your Amiga that's capable of all this...

Unless, you buy an expensive PC or Macintosh $h^{\mathrm{TM}}$ a high priced Colour PostScript ${ }^{\mathrm{TM}}$ Laser Printer, and a complex, costly Desk Top Publishing Package...

*

Ethics and technology are two subjects which, though seemingly disparate, have been inextricably linked since the invention of the machine gun and bolt action rifle brought man the power to kill dozens of his fellow men in the course of a few minutes without ever seeing their faces.

Since then, moral arguments have raged with increasing vehemence over the use of technology. At first in warfare, when Arthur "Bomber" Harris found contempt was his only reward for the near destruction of Nazi Germany's transport and industrial bases at the cost of 55,000 RAF aircrew and hundreds of thousands of German civilians, and more recently in medical science.

The widespread application of techniques developed through genetic research reaffirm that man has never failed to use any of the new technologies he has developed, be they weapons designed to kill tens of thousands of civilians in a single sun-hot flash, or methods by which the stuff of life itself is engineered and altered.

Debates, of course, rage on in the medical and other communities concerning ethical problems, but these debates are usually sidelined by the pace at which industry takes advantage of the opportunity for new profit. Only a few decades after the first serious doubts were raised about genetic engineering, commercial applications for the research carried out since Frick and Watson's DNA work are appearing every year.

In the computer industry we face a similar challenge when we look forward to the application of powerful new processors. Virtual reality, viruses, and artificial intelligence spring to mind as three areas in need of more sober debate.

For example, can it be long before a research engineer working on one of the advanced neural network programmes presently being funded in Japan and the USA is confronted by a computer which requests not to be turned off? If a computer could make such a plea of its own volition, we would be faced with a situation in which we had created a slave race of intelligent creatures for whom we were morally responsible. This moment of decision might be before the end of the century.

Simply turning off a machine which had become selfaware would be tantamount to murder.

In more daily practical terms, can we ignore the promise - or threat, if you like - that virtual reality will change the way in which we perceive our environment and lead to new "unreal" experiences? Since the evolution of the human race, the mainstay of our connection with the world we live in has been our senses, and if we are now to trick those senses into believing that the world has changed, shouldn't we be looking at the possible medical and social effects?

Technologies of all kinds, high among them the computer boom, are forging well ahead of the ordinary per-
 atomic bomb and can be brought down today to those involved in genetic research, who raise both the real problems (as practical advances) and a host of ephemeral answers in the shape of arguments which seldom carry beyond the rarified atmosphere of the scientific journal.

## SECOND CLASS

If our washing machines, videos, motorway travel, spending, and almost every other aspect of every day life are to be monitored by computer (as they have been for the last decade), if our bodies are to be made second-class constructions by the efforts of scientists seeking the cypher to the genetic code and the perfect human, and if our intellect is to be challenged by increasingly sophisticated computer brains (Kasparov only narrowly defeated his last computer opponent), can we sit back and watch?

There has been little or no debate on the real issue at stake, which is whether or not constant progress, towards which the whole of Western society has been dedicated since Copernicus, is actually desirable. While advances in so many fields threaten to take the humanity out of being human, shouldn't we be taking a step back for a breather?

Since the dawn of time, mankind has never failed to find practical applications for the knowledge our technology has made available, and it is time we recognised this fact Advances in genetics, artificial intelligence, and other fields will find their way into the commercial market place or the military, and when they do we might find that our world - the one in which we all live, breath, and reproduce - has been irreversibly altered by anonymous lab technicians with respectable jobs.

If we can't control and monitor the pace of our own ingenuity, can't question the sacrosanct religion of "progress", or are unable to tie our scientists down to the inventions they release on us, with no thought for their own culpability, can we look forward to a future in which the individual has any liberty at all?

Technological progress is the most powerful religion in the West and seems set to blossom into the future as fusion power, space stations, parallel processors, and genetically engineered children come on stream. If this is the religion of the next few decades, and if serious debate on the direction we are taking is not carried out, then I for one am a heretic.

The $A C$ team

| EDITOR ASSOCIATE EDITOR ART EDITORS | Stevie Kennedy | SYSTEMS MANAGER | David Stewart David Wren | CHAIRMAN MANAGING DIRECTOR | Derek Meakin lan Bloomfield |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Paul Austin | CIRCULATION DIRECTOR | David Wren |  |  |
|  | Terry Thiele | DISTRIBUTION | COMAG (0895) 444055 |  |  |
| NEWS EDITORPRODUCTION EDITOR | John Butters |  |  | CoverDisk | Hotine |
|  | Phil Morse | SUBSCRIPTION | 051-357 2961 | 062585 |  |
| STAFF WRITERS | Jonathnn Maddock |  |  | Thunday, 2 - | pm only |
|  | Simon Clays | Member of the Audit Bureau of Circulations |  | We reget higeg Compoing amot offer tedrical hep on a personal bass either by telephoce or in writing. Al reader enquines shoald be sutminted to the address in this paref for ponitle publation. |  |
|  | Adam Phillips |  |  |  |  |
|  | Tina Hackett | ABC 5 | 305 |  |  |
| ADVERTISING MANAGER | Simon Lees | Janjune 1993 |  | Aniga Computirg ia in infendere pobication and Conmedor |  |
| AD SALES | Jane Normington |  |  |  |  |
| AD PRODUCTION | Barbara Newall | Published by Europress Enterprise Ltd. |  | (e) | ary of ate crios in tat ane |
| MARKETING MANAGER PRODUCTION MANAGER | Lucy Oliver Sandra Childs | Europa House, Adington Park, |  | ©1994 Eiropress Enterprise Lid. No materal may be reproduced in whole or in part without writuen pernision. White every are is ciken, the pobitihers camot be held legaly reponsble for any erron in articles. listigs or adivertivements |  |
|  |  |  |  |  |  |
|  |  | Tet 0525878888 |  |  |  |
|  |  | Fax:0625850652 |  |  |  |

## CUROPRESS

For five years Amiga Computing has been the leading magazine for Amiga enthusiasts. As a key member of the Europress magazine group, Amiga Computing promises to inform, educate and entertain its readers each month with the most dedicated coverage of the Amiga available.

Printed in the United Kingdom
by BPCC Ltd, Carllsle

# You Can Now... with New Final Writer 

# Put Your Finger on the Buttons of the Ultimate Amiga Word Processor 



From the publisher of the acclaimed Final Copy II comes its new companion, Final Writer - for the author who needs even more! If you already use an Amiga Word Processor, it won't include the complete and comprehensive array of features found in this latest addition to the SoftWood family.

## Can your Word Processor...

Output crisp PostScript ${ }^{\text {TM }}$ font outlines on any graphic printer (not just expensive lasers), and was it supplied with over 110 typefaces? Import, scale, crop, view on screen and output troctured EPS clip-art images (Final Writer is supplied with a hundred), again, on any priter? Also create structured graphics and rotate them along with text to any angle, giving $y=0$ DTP quality presentation? Provide a huge range of printing options (eg. thumbnails, caling, crop marks etc. on PostScriptTM printers) and fulfil other advanced Word Processing lanctions easily such as automatic indexing, table of contents, table of illustrations and Latiography generation? With Final Writer, this is now available to you along with a list of feajoull be impressed by this revolution in Amiga Word Processing, but don't be put off by it's thanced capabilities. With its complement of aser definable Command Buttons and Superb Manual, Final Writer is simply one of the easiest mrograms to learn and use.

Final Writer is not just a one-off product...
SoftWood are acknowledged as the World's leading software company publishing for the Amiga and no other system. So, if Final Writer exceeds your current requirements - whatever your Document Processing needs, whatever your Amiga SoftWood will still have the Perfect Package for you..

## Pen Pal or Final Copy II and Proper Grammar II...a Complete Range.

Once you become a registered SoftWood user, you'll gain access to unlimited free UK technical support (others often charge
 you or don't provide support at all) and preferential upgrades to future versions of these and other exciting new products being developed right now.

If you've outgrown your existing package ask about our 'trade up' options from your current Word Processor (other publishers' WP's are eligible too).

Quality software for your Amiga

## SoftWood Products Europe

New Street Alfreton Derbyshire DE55 7BP England Telephone: 0773836781 Facsimile: $0773831040^{\circ}$
Available from all good dealers or, contact us for a list of nationwide stockists. All information correct a t time of going to press, E\&EOE. All Trademarks acknowledged. The docu-


FLOPPY DRIVES



AMISA 24 BTI HARDMAR

 HARIEOUN 32 BTT RANEMMKR BOMPD


 SUPPORTS：IV Paimt，Vabe，Colligai Sy Smpatice，Ad Pro，Real $30+$ others

H15001．5MB E929＊H2000 Plus
$\qquad$ £1479
 H4000 $4 \mathrm{MB}+$ Apho $+\mathrm{D} / \mathrm{Buffer} \mathrm{E} £ 1279$ with Harlequin Plus


##  ． 1 nit fressond Poit Casd ite

£324．99

$\qquad$

等
£379．99
 Smia to ficrib but with 4V8 wdo PMM，pequanmetie ussid
$£ 479.99$
PEGGY MAK6 YIDEO CRRD


YCOutpur modiof for Peggy．
E 129.99
OPM VsION Ifor 3000／4000





## EMULATION



SCANNERS \＆DIGITISERS Eson GT 6500,600 dpi 24 bit $A 4$ inc．Scom s／w．．．．$\quad 779.00$ Epson GI 8000，800dpi2 24 bir 44 inc．Scon $s / w-1099.90$ Power Hond Scanner， 400 dpi， 64 Greyscole，V3 Powerscan soffwore ．．． 98.90 Pouer Hand Scomer 4256 Greyscale $+5 / w$ ． OCR softwore for Power Scanner－
Pomer（ olour Hond Scanner V 4




| Point \＆Grato－ 16.99 | APPLICATION | LEISURE TOP SELIERS |
| :---: | :---: | :---: |
| Spelling Foir $\quad 16.99$ | Wrens Actounts．．．．． 82.50 | Alinn Breed II AGA ．．．．．．．． 22.90 |
| Any Noddy＿＿－ 16.99 | Exallence 3－ | AVBB Horrier Assoult ．．．．．27．49 |
| Ste alse softwore packs | Find Copy V2 $\quad 63.99$ | Bottle Chess．．．．．－．．．．．．． 14.99 |
| UTILITIES／LANGUAGES | Find Wrater $\quad 99.90$ | Blade of Destivy－$\quad 24.4$. |
| AMAX｜l Plis 249.99 | Find Words llil．．．．．$\quad 17.90$ | Boby Blous Gelactic A6A．23．90 |
| Ami bock＋A Toos．．．．$\quad 59.99$ | Maxiplan Plus v4．．．－$\quad . . .17 .90$ | 817 Fring fortress．．．．．．． 22.99 |
| Amos 30－ | Mini Office－．．．．．．$\quad 37.49$ | Campaigh．， |
| Amos the Creater．．．．．．$\quad 30.95$ | Pogestream 2.22 ．．．．． 62.90 | Championship Manager ．． 16.49 |
| Amos Compiler ．．．．．．．．－ 19.49 | Pagestreem v3．．．．．． 219.90 |  |
| Amos Prof．$\quad 32.99$ | AF GOLD WINNER |  |
| Amos Prof．Compiler．．． 24.99 | Pagesefter 3 AGA ．$\quad \mathbf{4 1 . 9 0}$ |  |
| Esory Amos．$\quad 22.49$ | Pan Pol $1.5 \ldots . .$. |  |
|  | Pers Finance Man＋－． 29.50 | Indiand Jones－ 23.99 |
| CanDo $25 \quad 93.50$ | Professional Page 4．1 AGA | Lemmings $2 . . .-\ldots . . . . . . .18 .90$ |
| Cress Dos v5－ 29.75 | es tre current top DIP | Nicro Machines－－．．． 18.90 |
| （yguskd Pro 3．5．．．－ 69.75 | poxkupe by the indopendant | Nonkey lland II．．．．．．．．． 23.99 |
| Directory Opus 4．．．．－r $\quad \mathbf{4 3 . 9 0}$ | mopelines， 945 af．．．． 119.49 | Puity．．．．．．ac．．．．．．．－${ }^{\text {－}} 12.99$ |
| $G B$ Route＋$+\cdots \cdots$ | SPECLAL Propoge 4 \＆Prodrow | Robsood A6A－$\quad 15.69$ |
| FA Bersic．．．．－．．．．．．．$\quad 8.99$ | 3 Frulesional liustrotr＇s Poil | e Socter－－．．．．．．．．．． 15.95 |
| gamem－$\quad 47.50$ | for Only 5159.99 | erII－$\quad 17.49$ |
| SAS／Latice（ | Prolext 55 －．．．．．．．．．．．POA | THUNDERBIRDS萛．．．．．． 12.99 |
| Owater tock－$\quad 39.49$ | Pallider ．．．．．．．．．．．．．．17．90 | Ther finest Hour－$\quad . \quad . \quad . \quad . \quad 5.99$ |
| Owertar bock Took Deluxe．．59．99 | Saxpm Publisher＿＿．．．．177．95 | Iriol Pursuit＿me．u．．－＊9．99 |
| － | Superbose Personul 4 ．．104．90 | Wing Commander ．．．．．．．． 19.49 <br> Zoof 15.99 |
| for grphtisuneis！，．．．． 19.95 | $\text { Typesmith.......... } 118.90$ | ＊Price applies only with Amigo hardware purchese |
|  | Wordswarth ASAL．．．．．．$\quad 44.90$ |  |
|  | Wouks Platinum＿＿－ 38.9 .99 | CD DISCS <br> All CDTV filles 158 off RRP． |
| ghes JPE Copdility to grogomves fof don＇t aterwise | MUSIC <br> AD 1012 Studio 16 | Pandora $\qquad$ $£ 479$ 2，000 dip Art \＆ 99 Sounts |
| whes DPANT IV | Samplet．．．．．．．．．．．．． 349.95 | CD ${ }^{12}$ DISCS |
| ISS，in flyy can kod＋300 JPE5 | Audo Moster $4 \times 2$－．．．．．$\quad 41.49$ | Loods wvilable－Phone－ |
|  |  | Juressit Park－．．．．．．．． 27.99 |
|  | Clority Sampler－－．．．．．．104．99 |  |
| coster | Deluxe Musk Const II．．．．． 67.90 | Latus Turbo Triogy ．．．． 27.90 |
|  | GVP DSS PLUS ．－．$\quad . . . . . . .59 .90$ | Lunn＇$/$ Overkill  <br> Super Puity AGA 21.90 <br> 1.90  |
| Fust，suantess bookjuath | Megolosound sampler ．．． 23.90 | Sensibla Soccer MaGA－ 18.90 |
| aperation | Midi Interface．－ 19.9. | Winter Super Spors．－ 21.90 |
| True Print $24 . . . . . . . . . .47 .90$ | Mirode K＇bsord／Tutor． 277.99 | Zod III 21.90 |
| VIDEO TAPE BACKUP | Rombo Megamix Motr， 27.99 | SPECIAL－ANY 3＊59．90 ve 10 34.99 RRP |
| UTILTY．．．－E．．．．．．E57．50 | （see offer with Vidi 12） |  |
| Bockop upto 120M3 onto one 3 | Sterso Master．－$\quad 26 . . . . . .99$ |  |
| hour tope | rjem． | BOOKS <br> Understanding Imogine II． 22.90 |
| $\mathrm{X}_{\text {cogy }}$ Pro $\quad 31.50$ | nd lurbo．．．．．．． 25.50 |  |

GENLOCKS／MODEMS
Rendole 8802
Rende
Ren
 Barna Cendod 292 Hinno Gernod
GipGad 200 459995
269990
63999
6899 SUPRA $2400+$ FAX $/ \mathrm{MODEM}$
With 9600 Fox 2400 Dod
Comms S W ，Mcodem leods \＆Power supply
SUPRA 14440 FAX／MODEM
$£ 148.99$
£279．00 As obove but up to $14,400 \mathrm{Fox}$
Rocgen plus Rockey Bundle．
£239．90

| ACCESSOR <br> A500／600／1200 pinter cantre 28.99 | $\begin{aligned} & \text { ES 8 DISCS } \\ & \text { Alien/Batmon/T2 lopstick... } 10.99 \end{aligned}$ |
| :---: | :---: |
| A500／／200 confrol centre－$\quad 34.90$ | Bua Jorsiick |
| A600 control centre．$\quad 27.90$ | CotV Reyboard ．－．$\quad 54.99$ |
| Brickette CDTV Joystick odapt．． 39.99 | 2y－Fi Speakers－$\quad 37.90$ |
| 10 Blank DS／DD disss in box ．．．．．4．99 | Ľ－Fi Pro Speakers－－$\quad \mathbf{5 7 . 9 0}$ |
| 10 Blank DS／HD discs ．．．．．．．$\quad 6.99$ | 50 Blank DS／DD diss ．．．．．．． 17.99 |
| A520 Modvilator．．－－－． 29.92 | 50 Blank DS／HD dists ．．．．．．27．99 |
|  | Disc Expander …－．．．．．． 34.90 |


| EXPANSION |  |  |
| :---: | :---: | :---: |
| 1500 512k Ram kpp＋Clack＿ 21.99 | K1288 bare＋dod | 65.90 |
| $11500+1 \mathrm{MB} \mathrm{exp} \quad 29.99$ | RC12082VB | 137.90 |
| $15500+2 \mathrm{MB}$ ，exp．10 8 M $\ldots$ ．．．． 149.99 | P（1264 4188 | 214.90 |
| M601 ．－． 37.99 | PCI2083NB | 396.90 |
| 14600／ $12002 \mathrm{NB} \exp$（ard）＿＿137．99 | Nax 1200 tore | 54.90 |
| M600／1200 4183 $\exp (\mathrm{card}) \quad$－$\quad 169.99$ | Max 1200213 | 134.90 |
| OTV IME exp＋Sips Agus．＿－＿157．99 | MEX 1200418 | 194.90 |
| 1500 Pom Sharer $1.3 \quad 37.95$ | 罭1200808 | 379.90 |
| A500 Rom Sharer 204． 38.95 |  | 79.90 |
| H600 Rom Sharer +1.3 ． 49.95 |  | 159.90 |
| A2065 Ethernt（ard．．．．．．．．．．． 229.95 | CBI 21 upgrode kid | 74.99 |
|  | 25 MHz 688882 for 4000 ． | 85.00 |
| Blizard 1200 MBE．．．．．．．．．．．． 299.90 | $33 \mathrm{MHz} 688822+$ crytal | 95.00 |
| Blizard 12004 MBB 25 WHz ．．．．$\quad 299.90$ | $40 \mathrm{WHz} 68882+$ crystal | 129.00 |
| Blizard 1200 4MB 50NHz POA |  |  |
| Chip fitting and board upgrade oveail，by our qualified engineers．．．． |  |  |



STARTER PACK： 500 Sheets A4 paper，Amiga to printer lead，
Universal Printer Stand \＆Driver
NO DEPOSIT CREDIT AVAILABLE
（subject to stafus）， $29.8 \%$ APR，written defails on application．All marges．

## ORDERING：

THLISALES NOt 0727 856005 PAX： 0727834944

 Hatt M3 506．Plase dilaw 7 woritig doys for deque deounce，Sibiect to avihitity，despath is nammaly wittin 24 hours of reesi of ceased po ment．Pices re conect of tme of going to press，howeves，we cre samefmes forced to change them，eitien up or down．


|  |
| :---: |
|  |  |
|  |  |
|  |  |

NO DEPOSIT
CREDIT FACILIIES



mader and patherchips．Jus telephone lo


Good graph programs, possibly because of their specialised nature, are hard to find on the Amiga. Spreadsheets such as Maxiplan (given away with last May's $A C$ ) have built-in graph generators capable of some of JcGraph's functions, but for professional results it is hard to beat JcGraph's flexibility and power.

Offering 13 3D graph types and 132D graphs, user-definable perspectives, and output in IFF, PostScript EPS, Aegis Draw, and even Geo 3D object format, JCGraph's colourful results (in IFF form at least) can be loaded into any word processor or DTP package you care to mention, and may even be rendered in 3D by Scenery Animator.

All graphs start life as an Ascii file which contains the data used by the program to render the final graphic. Using a text editor, the user inputs a list of parameters dealing with the number of columns and rows, the legend shown on each axis, and the numerical data itself. Though not as intuitive as the rest of the program, this process has the advantage that any and all data can be used with JcGraph.

Let's start by running JcGraph and loading one of the sample data files. When the program's window appears on the


[^1]
## From depicting

 company sales to the monthly budget, Jean Clement's JcGraph can salvage graphical sense from a numerical mess, and all in glorious 3D colour


Workbench screen, three separate windows will be visible, one for main control, one for output, and one showing a wireframe preview.

The first thing we need to do is load the data, so hold down the right mouse button and select the Open option from the Project menu.

JcGraph's data files are stored in the

SampleData drawer, from which you should choose the file Sample $4 \times 4$.asc. This is a set of data consisting of four rows and four columns (hence the filename) and makes for a colourful example. Next, hold the right mouse button down again and choose Load from the Graph Type menu.

A list of 26 graph types can be found in the GraphTypes drawer, so double click
on the 3D_DefaultType.grf file. Now we have both data and a graph type, so just click on the Render button found on JcGraph's main control panel and after a short interval a 3D graph will be drawn in the output window.

At first, the graph will look a little flat, so take a look at the four sliders on the right of the control panel. These control

...but 3D adds a great deal to aid impact

the 3D orientation of the wireframe preniew, and by experimenting you should Be able to position the preview at a suittie angle and perspective. Now click on Render again.

Notice the difference? By offering complete control over orientation, JcGraph gives us total control over the final appearance of the graph.

Depending on the number of colours your Workbench uses, each of the columns can be given a user-defined colour of their own, but the number of colours on offer is set by Workbench's own palette.

As the CoverDisk uses only four colours for Workbench (to save on chip RAM), it is difficult to make the most of the output while JcGraph is still on the disk, but installing on another disk is a breeze.

Just drag the JcGraph drawer icon to another Workbench disk or hard drive which has enough free space (you'll need about 360 k for the drawer) and that's it.

The target disk must have the following libraries in its Libs drawer: icon.library
(WB1.3 and earlier), powerpacker.library (all machines), iffparse.library (all machines), and kd_freq.library (WB1.3 and earlier). Kd_freq.library is stored in the CoverDisk's Libs drawer and can be copied to your new disk's libs drawer quite easily.

Simply boot from the new disk or hard drive, open a CLI or Shell window, stick the CoverDisk in DF0 and type:

## GOPT ARIGLCOMPUTING-

MRRCH1994:LIBS/KD_FREQ.LIBRARY TO LIBS:
If you have only one floppy drive this will involve a bit of disk swapping, but so long as the library is copied across properly WB1. 3 owners should find that JcGraph works perfectly from its new home. One last step is to place an Assign command in your startup-sequence to assign JCGRAPH: to the program's new drawer.

Once on a disk which use an eightcolour Workbench, the program's Colour and Palette functions come into their own. Found on the Edit menu, Palette allows the user to change Workbench colours to


[^2]
# Fast JPEC <br> Author: Christophe Feck 

The Jpeg standard, named after the Joint Photographic Experts Group which formulated it, is an incredibly efficient and compact way of storing huge graphics files without losing much of the original image quality.

Depending on the trade-off desired between compression and quality retention it is possible to squeere 1 Mb 24 bit files down to less than 100 k then view them again at almost their original quality.

Even at half the ideal quality setting, it can be difficult to spot the difference between the original file and the compressed version except that the latter will be about a quarter of the size. Our only problem is how to view the Jpeg files.

As a new standard, now universally adopted, Jpeg isn't supported by most established Amiga art packages, but this duet of Jpeg viewers - one each for ECS and AGA Amigas - will decompress the files and display them as HAM or Ham8 Images depending on the machine being used.

To test the program, go to the CLI window at the bottom of your CoverDisk screen, click in it to make it active, then type:

## CD OFO:FASTIPEG <br> E.PPE_ECS TEST.JPG

If you have an AGA machine, you would, of course, type AGA where it says ECS above. The sample Jpeg file, an example of the Essence II textures for Imagine 2.0 which was originally a large 24 -bit file, will appear as a HAM (on ECS machines such as the A500 Plus and A600) or Ham8 picture (on A1200s and A4000s). And that, folks, is that. The programs use no special libraries and can be copied to a suitable utilities drawer on another floppy or hard drive by just dragging their icons across.

You will, of course, require either a steady supply of Jpeg images from a bulletin board or PD library, but just as soon as we find a decent, reliable Jpeg encoder in the shareware sector, we'll be including it on a later disk.
create a range of more exciting hues for the finished graph, and Colour enables the application of different colours to the graph's background, ground colour, and those used for each column of data.

Before Colours can be assigned, you must of course load some data, but this is the only restriction, and there's nothing to stop the user creating a set of very psychedelic bar charts.

All you need do before wallpapering the bedroom with these graphs is learn the simple rules governing the make-up of a data file.

To begin with, all files are created in a text editor such as Workbench's Ed and saved as Ascii files. The common format is to start the file with a line which simply says " 1002 " followed by a comma, a sequence which tells JcGraph that this is one of its data files.

Next, we must specify the number of columns, which are those values used for the $X$ axis (months, years, and so on), then the number of lines, which corresponds to the number of items in the graph.

For example, if we wanted to compare sales of three products over half a year, we would enter 6 for the number of months (or columns), and 3 for the number of products (or lines) ensuring that they are separated by a comma.

On the same line we tell JcGraph how often we want the Y axis marked. If, say, our product sales are in tens of thousands, we would use the figure 10 , and so on and JcGraph would mark the axis from 0 to the highest figure used in units of 10 .

Finally on this line we have a floating
point value which enables us to use floating point values if required, but for most graphs this will be set at 0 to force integer mode.

Our first two lines so far look like this:

## 1002, <br> 6,3,10,0,

Next we give JcGraph the sales figures, one line for each month. So, for example, if products A to C respectively sold $20,000,25,000$, and 17,000 units that month, we enter:

## $20,25,17$,

and so on until we have covered all the months. For now, just think of a few random sales figures to give us a nice spread for the finished graph.

Finally, we have two lines, one in which we set out the markers for the X axis, and the other in which we name the items being recorded. In our example, these could be:

## Jan, Feb, Har, Apr, Hay, Jun, Prodh, ProdB, Prodh,

If we now save this as MyGraph.asc and load it into JoGraph we can see the results for ourselves.

Full details of the rest of JcGraph's capabilities, including its ARexx interface, can be found in the documentation which, as a matter of interest, you might not want to print out until you've taken a look at the instructions for the excellent DocDump program, also on this month's disk.


## Icon Editor v4

Author: Peter Kiem

Good 16 -colour icon editors for the new Amigas are hard to find, but Icon Editor v 4 (IEv4) is one of the best and offers enough features to satisfy even the most artistic icon designers.

With a maximum of 16 colours and the ability to create enormous icons, IEv4 is much better than the Workbench editor supplied with releases 2.04 and 3.0 and is


Use the default icons to make life a little easier
easier to use. Simple controls and selfexplanatory menus make creating new images or adapting old ones an easy affair.

On loading, once the timed shareware notices have disappeared, the program presents the user with a large edit window through which an image can be scrolled using the standard scroll bars.

In addition, a zoom bar above the main window offers a range of magnifications up to 16 times normal size, at which point pixels are enormous and detailed editing a breeze.

A cluster of four cursor-type arrows in the lower left of the window can be used to physically move the image in the window rather than just scrolling through it, so there are options aplenty to keep users happy.

Painting itself, as with most icon editors, is less well catered for, and only flood fill, text input, and freehand drawing are available.

However, as most of us would rather design our icons in a paint package such as DPaint, and as IEv4 has an IFF import option, these few tools suffice for touching up and finishing off an image.

Information details for the icon can be set using a large friendly requester. Here the user can decide on any default or other tool types the icon requires, set its initial screen position, and choose which of the basic file types (disk, drawer, project, and so on) it will be.

Images can be copied from the normal to the selected icon states and can be scaled up or down between one-eighth

and eight times their original size. In addition, the program will, automatically recolour a WB1.3 icon to suit the changeff WB2.04 and later colour palette.

Even programmers are taken care of by the option to export icon information as C code, providing another dimension in flexibility. There's no output for assemblet code, but as most intuition programming (for beginners at any rate) is done in C this is not a problem.

The Preview mode cleverly depicts the finished icon with all colours correct for the present Workbench settings and in the currently selected screen mode, so there's no excuse for a finished design which

## SuperDuper 3.0

## Author: Sebastiano Vigna

A brand new version of a program we distributed over a year ago, SuperDuper 3.0 is one of the fastest and most reliable disk copying programs in the shareware sector and, as it has undergone a complete rewrite to take better advantage of WB2.04 and 3.0 , we thought another airing was called for.

Simply speaking, SuperDuper gets around the Workbench limitations on copying disks by using RAM buffers, stepping the heads of any second and third drives attached to your system, and several other tricks to squeeze as much speed as it can from your disk drive.

If you are fortunate enough to own a second floppy drive or even third, the speed at which SuperDuper carries out a complete disk copy will be something to watch.

By reading a disk, storing it in a buffer, and squirting to two or more extra drives at the same time, SuperDuper can make up to three copies of a floppy in less time than it takes the usual Workbench method to copy one.

The SuperDuper interface is split roughly into three areas. First there is the fuel bar used to show the progress of operations, below which is a second panel containing the program's options, and on the right there is a selection of buttons to choose source and destination drives and the method which SuperDuper will use.

Four distinct methods are on offer, and a quick examination of them will help explain how this utility works.

Disk2Disk is a straight copy from one disk to another, and to use it you must have a second floppy drive. This simplest method is the best for most single copy functions and functions more quickly than the traditional DiskCopy command. A simple copy from and to the internal drive is about 25 seconds quicker with SuperDuper.

Note that with all buffer methods, once a buffer image of a disk is created, it needn't be read again, which makes subsequent copies twice as fast.

The second mode is the buffer mode, used for DFO: to DFO: copies, using which SuperDuper will create a RAM image of the disk before writing it to the second disk. If
you have a 2 Mb Amiga this will take place in one pass, but other users might have to switch disks to avoid the RAM disk overflowing.

Third we have the HDBuffer method, which creates an image of the source disk on hard drive before writing it to the destination disk. This is ideal for those with hard drives but limited memory, with the bonus that the buffered disk can be kept on hard drive until another copy is required.

Lastly, there is the VD (or virtual device) Buffer mode which is best suited to those who use RAD:, VDO:, or any other recoverable virtual RAM disk.

SuperDuper will create the buffer in these virtual devices, thus ensuring that even if


[^3]COVERDISK■


doesn't fit when used for real.
Let's take a quick run through setting $-p$ a project icon. Imagine you have a set of commands you'd like to be able to isue quickly but which are inappropriate to the startup-sequence, such as a set of special assign commands.

To run these from Workbench, first hod your usual text editor (Ed will do) and save out the list of commands (or batch script as it will now be) to disk.

Next, load IEv4, hold down the right mouse button, and choose Load Default from the Project menu. A list of default icons should appear from which you should choose Project. After a short
pause, the project icon will appear in IEv4's edit window where you can mess about with it as you please. Once all the graphical editing is over, select Edit Info from the Icon menu and take a look at the options on offer.

From top left, we can see that IEv4 already knows that the icon is for a project, but there are no proper tool types and no default tool. For our purposes, we need to set the default tool type as IconX, the AmigaDOS command which will automatically execute the script which calls it.

To do this, simply type the following into the default tool string gadget:

## :t/itorx

This instructs the Amiga that when our project icon is double clicked, it should load IconX from the C directory of the current system disk and pass the script to it for execution. Now all we need do is close the information window by clicking on the close gadget in the top left, then select Save As from the Project menu.

When the file requester appears, find the script file you originally saved out and save the icon under the same name. IEv4 will not overwrite the file, just save the icon with the "info" appender to identify it as an icon. Note that this unregistered version of IEv4 will quit out as soon as you save.

Now we can go back to Workbench and double click on our new icon to carry out whatever commands were held in the script file. A straightforward process
which is much the same for the creation of most other icons, and even if you still feel a little unsure there are plenty of hints and tips in the on-disk documentation.

## DocDump 3.6

## Author: Robert Grob

This is the latest version of a program which is designed to take long, unwieldy text files such as those often found on CoverDisks and shareware disk, chop them up into small pages,
and print as many pages as possible to each sheet of paper.

With the help of DocDump's booklet setting it is even possible to have the program arrange documents in the correct order on both sides of a sheet of paper so that once printed they can be cut in half and arranged as a double-sided A5 booklet complete with page numbers.

Going through this process manually using a word processor would be unbearably tedious, yet DocDump does it all in moments and without mishap, making it one of those unsung little heroes of the utility world. It does an unglamorous but very useful - job quickly and effi-


DocDump has a very friendly user interface
something goes wrong during a multiple copy, the image of the original disk will survive a warm reset.

Verification is carried out on all copy modes, even on the RAM disk itself, so SuperDuper is just as reliable as a normal Workbench DiskCopy. In addition, all the usual options you'd normally have to type in at Shell can be accessed by clicking on the Options button.

When this is done a second window opens containing a number of gadgets and toggle buttons using which the user can decide on whether or not to have verification on or off (for faster, but less reliable copying), which file system to use, and so on.

Note the string gadgets to the right, and in particular the one marked XPK Lib. The shareware and PD XPK libraries now most commonly used by crunchers and packers (including the FAST and NUKE libraries used by Disk Expander) can be found on many BBSs and in some PD libraries, and as long as you have one of these libraries you can specify that it is to be used in all buffer operations.

In other words, the presence of an XPK library on your system disk will ensure that all data buffered to the RAM disk will be crunched quickly as it is stored, then decrunched on its way to the second disk, thus making it possible for 1 Mb owners to copy complete disks in RAM without any disk swapping.

It is also possible, using the string gadgets in the lower right to specify the start and end cylinder to avoid copying large tracts of empty disk, and it is an option the more expert among us will find a very useful speed boost.

Other gadgets here either speak for themselves or are described in the documentation, but note that SuperDuper automatically detects HD disks, so those lucky enough to have one (step forward all you A4000 owners) can use the program with their 1.76 Mb disks.

SuperDuper's third useful window is accessed by clicking on the Info button found on the main control screen, a button which opens a window showing in graphical form the progress of all copy operations. Elapsed time, drive status, and number of copies


Full control over the copy process courtesy of SuperDuper's main screen
made are shown and constantly updated, as is a list of the disks so far copied - useful for putting an end to confusion when making a number of different backups.

From the main window it is also possible just to check a disk for errors or format it using the toggled options selected through the options screen, making SuperDuper an all-round, friendly replacement for Format and DiskCopy, the two commands used most by new users and those which provide the most problems at first.


## DataTypes

## Author: CommodoreAmiga Inc.

DataTypes are a special feature of Workbench 3.0 and are used by the MultiView utility as loader modules. As soon as a new DataType is installed on your Workbench 3.0 floppy or system partition, the MultiView program will be able to view files saved in the format corresponding to the new datatype.

The directory found on this month's CoverDisk includes a set of DataTypes covering the mostly PC-oriented image formats PCX and BMP, Windows icon images, and MacPaint bitmaps.

Installing them on your system disk is easy as pie. Boot from
your normal system disk or partition, put the CoverDisk in DF0 open a Shell window and type:

## CD DFO:DATATYPES <br> COPY DEVS SYS:DEVS ALL CLONE <br> co ctassts <br> COPY DATATYPES SYS:CLASSES/DATATYPES ALL CLONE AddDatatypes REFRESH

AmigaDOS will copy all the new files to your existing SYS: disk and when the AddDataTypes command has been issued they will be ready for use. MultiView will now recognise any file saved in the new formats, and if you already have the Jpeg and GIF DataTypes distributed on CoverDisks last year you'll be well on your way to the complete picture viewer.

Look out for new DataTypes as we find them.
$>$
ciently without blowing its own trumpet.

First of all, run the program which will bring up a smallish window peppered with gadgets used to set the various print parameters. There are buttons to toggle support for tabs and line feeds, choose output to one of the printer ports or a drawer on disk, set the page size, and paper type.

On the right of the screen, a set of string gadgets hold the default number of lines per page and so on for each of the standard page settings and document modes Dump, Column, and Booklet).

Dump mode is a simple squashing method to squeeze four times as much text on a single piece of paper and can be difficult to read if you have bad eyesight.

Booklet mode produces cute little A5 double sided booklets but takes a lot more time, and column mode is designed for those long documents such as source code listings, which can be printed in two columns to avoid wasting most of a sheet of paper.

At the moment, DocDump recognises
(RAM:DocDump.doc would be fine). Once a text file is available, use the Load button on DocDump's control screen to select it, then click on Analyse. This will open a small info screen telling us how many pages there are in the document and how many sheets of paper will be required depending on the selected print mode.
Our next job is to choose a printer driver using the Load Drv button and the subsequent file requester to open the DEVS:Printers drawer. On our CoverDisk, only the generic printer driver is included, but if you have installed DocDump to hard drive or another Workbench disk (see Installation panel) you should have a greater selection.

OK so far? So long as you're happy with the document settings, which we won't go into in great detail here, the document should appear on paper more or less perfectly.
For some documents, fiddling with the default settings is advisable, and for printing the DocDump.doc file itself there are detailed instructions at the beginning of the text file itself on which settings to use.

## Faulty CoverDisk?

If you subscribe to Amiga Computing and your disk does not work, please return it to:

Amiga CoverDisk
Europress Direct
FREEPOST
Ellesmere Port
L65 3ED

## If you bought your copy from a

 newsagent and find that your CoverDisk is faulty, please return it to:PC Wise
Dowlais Top Business Park
Dowlais
Merthyr
CF48 2YY

## Think you can do better?

Want to be famous? We are always on the look-out for quality Amiga programs for the CoverDisk. If you think you have written something good enough for others to share and enjoy, please send it in and we'tl have a look.
The Amiga Computing CoverDisk is used by thousands of Amiga owners every month in places all over the world from New Zealand to the USA, so if your submission finds its way onto the disk, you could be famous.
Please make sure that you list ALL library and other files necessary for the program to work. Feel free to design your own icons for programs that run from Workbench, but please don't make them too big.
If you ensure your program is as compatible as possible with a wide variety of Amigas, it will also stand a better chance of publication. We are especially interested in small programs whether they be games, utilities or whatever.
We are prepared to pay our current rates for original work which has not been distributed in any other way and which has not been put in the public domain.
If you wish your program to be released as shareware or freeware we will be happy to publish it, but would, of course, be happier if we had been given it first!
Your submission MUST be accompanied by the submissions form, a copy of it, or a signed declaration to the same effect. Please supply your full name, address and phone number.
Unfortunately we cannot undertake to return disks sent to us as the volume of submissions makes this an impractical exercise.

Post your submissions WITH A COPY OF THIS FORM to: Colin Yarnall, Amiga Computing, CoverDisk Submissions,
Europa House, Adlington Park, Macclesfield SK10 4NP.


## You must sign this declaration:

The material on this disk is mine. I didn't steal it from someone else. It hasn't been published before and I haven't submitted it elsewhere because I want Amiga Computing to publish it. I understand that by submitting my work to Amiga Computing, and signing the declaration, I am giving full copyright control to Europress Enterprise Ltd.

I understand that if my submission is bought by Amiga Computing I will be paid the current applicable rate. I know what copyright means and I will be responsible for any possible litigation arising by breach of it by Europress Publications Ltd as a result of using my submission.

# NEW YEAR SPECIAL PRICES 

## LOWEST PRICES

BEST SERVICE

## RAPID DELIVERY

## SALES HELPLINE 0816869973 / 0817811551



## FREE LABELS + FREE DELIVERY BY PARCEL FORCE

3.5" DELUXE LOCKABLE BOXES
40 Capacity ............... $£ 3.99$
100 Capacity........ $£ 4.50$
Add $£ 3.10$ P\&P
$3.5^{\prime \prime}$ STACKABLE BOXES
110 Cap Banx........... 88.99
150 Cap Posso.......£16.00 Add $£ 3.10 \mathrm{P}$ \& P
$1003.5^{\prime \prime}$ HIGH DENSITY BULK DISKS £55


## AMIGA 1200 PACKS

RACE ' $N$ ' CHASE Nigel Mansells + Trolls

## f279.99

 Word Worth, Print Manoger, Deluxe Point IV Oscar, DennisADD £10 for 10 Disks, Mouse mat, Joystick, Disk Cleaner, 40 Cap lockable box

## ©299.99| 2339.99

FREE Mouse mat - Disk Cleaner - Joystick Syndicate, Chaos Engine, Nick Faldo's Golf, Pinball $85 \mathrm{Mb} . . . . . . . . . . . £ 479.99 \quad 85 \mathrm{Mb} . . . . . . . . . . . £ 524.99$ $127 \mathrm{Mb} . . . . . . . . . £ 509.99 \quad 127 \mathrm{Mb} . . . . . . . . . £ 559.99$
Authorised Declers - lyr, at home service FREE DELVERY


## SMART BUY

12 GAMES FOR £14.99
Road to Hell, Tank Battle, AGA Tetris, Pocman 92, Duel, Lemmingoids, Mouseman, Wizzy's Quest, Premier Picks, Tangle, Super Leogue Manoger, Bop \& Flop
STARTING PACK £14.99 FOR: 10 Disks, Mouse Mat, Microswitch Joystick, Storage box, Disk cleaner


## AMIGA 4000

# $030 / 2 \mathrm{Mb}$ RAM 80 Meg . <br> £CALL 030/2Mb RAM 130 Meg . £CALL $040 / 6 \mathrm{Mb}$ RAM $130 \mathrm{Meg} . .$. . BEST PRICE Add $£ 125$ for Exira 2 Mb and $£ 175$ for 4 Mb RAM <br> AMIGA 600 

## FREE WORD PROCESSOR PACK

 FREE DELIVERY

| PRINTERS |  |  |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| MONTIORS |  |  |
|  |  |  |
|  |  |  |



ALL PRICES INCLUDE VAT \& DELIVERY (Unless otherwise Stated) WITHIN 3 DAYS (UK MAINLAND ONIY) ADD $£ 8.00$ FOR NEXT DAY DELIVERY CALL OR SEND CHEQUES/POSTAL ORDERS TO: GREY-TRONIGS LTD, UNHT 1015 WHITGIFT GENTRE, CROYDON, SURREY CRO 1 UU SALFS MIIPIINE: 0816869973 Mail order prices only FAX: 0816869974 All offers subject to availability. E\&OE. Prices/Pack details may change without notice due to currency fluctuations. Please allow 6 working days for cheques to clear

8

TRAPFAX SOFTWARE

The ultimate in Amigà Fax software. For class 2 standard. Send faxes from ANY preferences printer driven program! Superb quality and flexibility. Features delayed transmissions, multiple fax scheduling, Integrated phonebook, Fax Viewer, ARexx interface and Network support!

Only $£ 74.95$

SERVICE AND SUPPORT
We are EXCLUSIVE UK distributors for all adver tised products. We offer full technical suppo and after sales service. This is unlimited ane free. We also support our products direct on-line via our BBS. Here you will find all the lat est software upgrades plus help and advice a latest PD!

## PICASSO II

Retargetable Graphics (RTG) is the future of Amiga graphics display technology. True RTG means that a graphics device will not be restricted by the memory limitations of the host system's Chip memory, or by the speed of the custom chips. A true RTG device does not have to use Chip RAM at all, and can run exclusively in Fast RAM if needed for the best possible performance whilst allowing any well behaved software to utilise the enhanced resolutions and colour modes of the RTG device without any modification to the software. Well behaved software will be able to run on their own high resolution custom screens and will not have to rely on running on either the Workbench screen, or screen promotion hacks, to allow compatibility.
The Picasso II RTG Emulator integrates seamlessly into the Amiga operating system to give the most reliable emulation available. The new resolutions provided by the Picasso il appear in all your applications as new screen modes selectable from the standard ScreenMode requester. For any program that allows you to choose a ScreenMode requester, For any program that aliows you to choose a mode as an alternative (such as Picasso:1280 $\times$ 1024). You will not have to wait for any custom programmed versions of any program that is compliant with the rules of the operating software. Such programs will be able to immediately take advantage of the Picasso II board. Programs that are written with AGA in mind will be able to immediately take advantage of the new modes available to


AMPLANT Will revolutionise the way you use your Amiga! Imagine one card offering multiple emulations that ALL multi-task (after all, isn't that the way the Amiga was meant to work!)

The supplied Mac emulation boasts full colour (16 ECS, 256 AGA, 1.6 Million with supported graphics cards) and


EMPLANT supports Hard Drives, (via on-board SCSI or AmigaDOS partitions), Hard Files, MAC 800 K (via Mac drive adapter), MAC/IBM 1.44 Mb , IBM 720 K , EMPLANT and AMAX formats. The SCSI interface supports both Amiga peripherals and the peripherals of the emulated system at transfer rates of over $1 \mathrm{Mb} / \mathrm{Sec}$.

EMPLANT supports AppleTalk, Serial ports, Printers, Modems, Midi, etc. You may use SyQuest, Any AmigaDOS device (DHO:, RAD:, VDO: etc.), Scanners, Graphics Tablets, CD ROM etc.

Emulation speed is exceptional and compatibility is excellent. All known software runs! The emulations incorporates cross-platform file transfer.

The IBM 386/486 emulation is imminent, with Atari 800/ST/Falcon, C64/128, SNES/SEGA, Apple II (among others) all planned in the future. These will be available as low cost upgrade modules.

EMPLANT currently supports any Zorro equipped Amiga with the A1200 PCMCIA version out soon. The Mac emulation alone requires $68020 / 30 / 40$ with 4 Mb RAM minimum and also 256 K Macll/x/Cx/SE30 ROMs.

EMPLANT can be expanded to provide 2 Mb of batterybacked static RAM and has an audio digitiser built in! Other add-ons are planned.

| EMPLANT BASIC (Standard Emulation Board) | $£ 299.95$ |
| :--- | ---: |
| EMPLANT OPTION A (With AppleTalk/Serial) | $£ 349.95$ |
| EMPLANT OPTION B (With Int/Ext SCSI) | $£ 349.95$ |
| EMPLANT DELUXE (Both Opt A\&B) | $£ 399.95$ |
|  |  |
|  |  |
|  |  |
| EMPLANT PCMCIA (A1200/600, RELEASE SOON) | $£ 299.95$ |
| EMPLANT IBM UPGRADE (RELEASE SOON) | $£ 99.95$ |

## WAVETOOLS

 STUDIO QUALITY SOUND, PROFESSIONAL LEVEL FEATURESTired of that old 8 bit sound coming out of your Amiga?
Now you can really make some waves with the awesome sound the all new WaveTools 16 bit Amiga sound system. WaveTools 16 t audio card plugs into any Amiga 1500, 2000 (accelerated), 3000 4000 computers.

WaveTools hardware and software gives your Amiga the punch sound quality of CD's and DAT recorders at a fraction of the price other 16 bit sound cards. WaveTools uses your computers hard do drive to directly record, edit, mix and playback audio with the clart and crispness that only 16 bit technology can provide, in Amig compatible AIFF 16 stereo file format. Using state of the art circult and the latest in 64X oversampled Sigma-Delta conversion technot gy. WaveTools has a frequency response of 10 Hz to 20 KHz and dynamic range of 85 dB for faithful reproduction of sounds from the fattest bass to the thinnest strings. WaveTools provides a pair stereo I/O jacks for direct connection to any device with standard lin in and line out connectors. Record from CD players, DAT recorden Video Tape, Videodisk or any other line level audio sources.

WaveTools feature set meets the needs of the most demandis users. Multiple waveform windows may be opened simultaneous and you can cut and paste audio open files to facilitate building cont plex audio tracks. In addition to cut and paste WaveTools support digital mixing of unlimited numbers of tracks. Using WaveTool mixer, you can layer sound upon sound to produce rich, full aud tracks that have the quality of studio made multitrack recording Using WaveTools extensive editing and mixing functions, you ca sweeten your basic tracks with overdubs, perform ADR, and plac sound effects at specified points in the soundtrack. Best of all.


WaveTools is processing audio in the digital domain, there is a generational loss or noise increase normally associated with outda ed analogue mixers and recorders. WaveTools is able to sample das at a variety of sampling rates as low as 19 KHz as well as the star dard rates of 44.1 KHz and 48 KHz for CD and DAT compatibilt WaveTools includes a waveform editor for cut, copy, paste and m operations on selected portions of audio waveforms. Edits can tagged as destructive or non-destructive. WaveTools also maintaiz an internal time code in the format of SMPTE 24, 25 and 30 frame per second to ensure perfect synchronisation of your audio files w video and animation, if required.
The WAVETOOLS RTX (Real Time Effects) Module adds an AD21 DSP (Digital Signal Processor) and a SMPTE time code reader/ge erator. The DSP allows real time 8 track mixing and playback (stere) out), and realtime effects such as flange, echo, slapback, EQ etc. Th architecture is open to allow third party developer support (custo DSP routines). The SMPTE time code reader allows WaveTools chase Longitudinal Time Code (LTC). Vertical interval Time Co (VITC) and Midi Time Code (MTC). It accepts composite NTSC PAL video for VITC and line level audio for LTC. The time code ge erator can stripe VITC or LTC and can generate a user positione time code burn-in window for making a video work print with tir code stamped on it.

## WAVETOOLS

RTX Module (Ships January)
WAVETOOLS RTX (both boards)
£349.9: £299.9 E599.9

New readers may have difficulties asing our CoverDisk, so we have lincluded this page to help you out. Below we explain how to copy files from one disk to another, how to copy the entire CoverDisk and how to de-archive programs. One
of the first things you must do when get your CoverDisk is make a backup copy, then put the original CoverDisk away for safe keeping. As a rule you should also do this with the majority of your software collection.

# The Amiga Computing CoverDisk is designed to be as simple to use as possible. Follow these instructions and you'll be up and running in no time! 

## Copying individual files

You might at some point want to copy a single program from a CoverDisk to your compilation, Workbench disk or even your hard drive.

To do this you'll need the COPY command. As most CoverDisk programs are stashed away in their own directories, the quickest way to copy a program is to copy the whole directory at once. Use the command:

## COPY \{directory) To (newdisk) ALL

where \{directory\} is the full pathname of the directory you wish to copy, and (newdisk) is the name of the disk and directory into which it will be copied.

For example, if you wanted to copy a utility called FRED from CoverDisk 27's Utilities drawer to a directory called FRED on your Workbench disk, you'd type:

GQPI COVERDISK27:UTILITIES/FRED TO VORKBENCB1.3/FRED ALL
Atternatively, you can click once on the FRED directory icon and drag it across to the new disk's window. This has the advantage of creating a new directory for you and copying the icon as well.

Once you have moved a particular program to where you require it you could experience some problems running the program. This is sometimes caused by the program not being able to find files which it needs to run.

A good example is the text files on the CoverDisk. These have been crunched using PowerPacker, so when you try to copy them to another disk and then try to read them you can't unless you have also copied the Powerpacker library into your LIBS drawer.


So if you have copied a program from the CoverDisk to your Work disk or hard drive make sure you also copy any other files the program requires, ie fonts, libraries, device drivers and Ccommands.

## De-archiving

Occasionally we have so many programs to fit onto the CoverDisk that we have to archive them. Archiving is where we take the entire contents of a disk and compress them into one file which is much smaller, giving us space to fit more programs onto the disk.

Dearchiving programs which are on the CoverDisk is a very simple task. If a program has been archived then you will need a blank disk to dearchive it onto.

Say we have archived a program called FRED. You simply double click on FRED's icon, and will be asked if you have a blank disk ready to dearchive to. Type " y " or " $n$ " accordingly.

Your computer will then copy the archived file into its memory and ask you to insert your blank disk. It will proceed to format the disk, and will then de-crunch the archived file onto your blank disk.

Once this has been done you can simply reboot your machine with the disk which contains the dearchived program on it and then use the program as instructed in the CoverDisk pages.

Note that if you have a Workbench 2 or upward machine you must boot with the CoverDisk writeenabled to perform the dearchiving process.


## Workbench 3

If you have a Workbench 3 machine, don't worry - most if not all of the programs on the CoverDisk will work on your machines.

If the program is specifically designed to work with Workbench 3 then you may have to copy the program to your hard drive or Workbench disk using the process described earlier on this page.


# gordon 

## ADDED VALUE PACKS

HARWOODS EXCLUSTVE POWERPLAY GAMES PACK
A GREAT BUNDLE OF 18 EXIRA GAMES TO ADD TO OUR AMIGA OPTIONS...
YOU WON' NEED TO BUY MORE FOR AGEEM:
Xenon 2 Megablast', Stir Crazy, TV Sports Football,
Hostages, Jumping Jackson, Bubble Plus, Bloodwych, Tin-Tin on the Moon, Krypton Eg9, Purple Saturn Day, Eliminator"t Skychase, Safari Guns, Lombard RAC Rally, Captain Blood, Strike Force Harriert, Sky Fox Il and Lancaster
ony. £19.95
...purchased with an Amiga or Just $£ 24.95$ separately.
'Not compatible with A1200/3000/4000.

## Harwoods LifeTime Warranty Plan

Now you cagiadd a Warranty to ANY hardware item from Harwoods for less thanqou'd think! Take out up to 5yrs cover and at the end of that period you can extend cover annually... A LIFETIME's Peace of Mind! What's more the Warranty is fully transferrable enhancing re sale values should you ever decide to upgrade your equipment. Available now even on hardware you may have purchased elsewhere
 Amiga CD32 - THE NEW COMPUIING REVOLUTION! Ideal for the ardent games player this 32Bit CD ROM System will expand into a full computer as your needs grow with CBM's planned Keyboard, prives etc.

변N․ M


CM 8833 MKII $14^{\text {" }}$ STEREO COLOUR inc. Leads/Dust Cover PRO 2000 15" COLOUR SUPERRES MONITOR/TV inc. Leads The best of both Worids - Quality Computer Display and fully featured FST High Definition TV in one! Infra red remote, FastText Teletext, Loop Aerial, Headphone Socket.
 Commodare Display
CBM 10845 COLOUR $14^{\prime \prime}$ 8179.95 STEREO Inc. Leads/Dust Cover CBM 1942 MULTISYNC 14 mity NEW LOW.. COLOUR STEREO Inc. Leads, Dust Cover etc. (for A1200's, 3000's \& 4000's). 28 Dot Pitch NEW... MICROVITEC CUBSCAN (no DMS) ... THE LOWEST COST MULTISYNC MONITOR AVALLABLEMI Micprovitec
CUBSCAN (no DMS)... 14"Colour Hi-Res MultiSync Monitor, . 28 Dot Pitch available mid Jan. 2299.95 CUBSCAN 1440 DMS... 14"Colour Hi-Res MultiSync Monitor, Built-in DMS, . 28 Dot Pitch $£ 429.95$
\&199.95
f239.95 The one in all packs
-

All our printers are supplied for immediate use including able, paper and labels FREE OF CHARGE. Dot matrix models come with tailored dust cover. We also include specific Amiga driver disks with ALI printers FREE, (with Citizen models you get the excellent Print Manager Version 2)

|  |  |  |
| :--- | :--- | :--- | :--- |

## Heyman kex Print Manager

Available with all new Star Printers or for existing Star users. Higher printing resolutions and more control of your Star. Please ask for details of this great new utility

## Extended Watranty Plan

New Prestige Warranty available on all Star printers. This is in addition to Star's standard 1 year warranty and can be extended to a max. of THRRE YEARS ON-SITB from a very low costm Please ask for further information or check out the booklet we include with every Star Printer


-Apple
Apple ${ }^{\text {TI }}$ equipment has always had a reputation for its quality and reliability...but, at a price! Now you can use Genuine Apple ${ }^{\text {n/ }}$ Printers with your Amiga at far MORE COMPETTTIVE prices than you'd imagined was ever possible...
Apple ${ }^{\text {u }}$ Personal LaserWriter ${ }^{\text {TN }}$ NIR ippm Canon engined laser with superfast RISC Processor \& 3Mb RAM (upgradable to 4Mb). True PostScript Level 2. HP Laserletil \& PCL $4+$ emulations. FUUY Amiga \& PC com patible. Parallec, Serial RS232 \& LocalTalk interfaces built in. No other laser of this Apple ${ }^{\text {TM }}$ Color A3/A4 Bubblejet Canon BJC 820 engine $360 \times 360 \mathrm{dpi}$ Bubblejet. EpsonQ 24Pin emula tion. Parallel \& SCSI interfaces. A3 \& A4 size paper. Up to 300 cps in text model INFINITE colotr output using a 4 colour CMYK system of ink cartridges with approx. 700 page life. There's no better inkjet at only.
$\$ 704.95$

| INKJET CARTRIDGES: |  |  |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Bj $200 / 230$ | 515.95 | BJ800 - Cyan | 821.95 |
| BJ600-Black | 56.95 | BJ800 - Magenta | 521.95 |
| BJ 600 - Cyan | 58.95 | BJ800 - Yellow | 521.95 |
| BJ600 - Magenta | 58.95 |  |  |
| BJ600 - Yellow | 58.95 |  |  |
| SHEET FEEDERS: |  |  |  |
| BJ10sx in White | or Black |  | 95 | RIBBONS:

## MONO COLOUR

AUTO SHEE 120 D FEEDERS \begin{tabular}{lll|l}
1200 \& $\$ 3.95$ \& NONE \& $\begin{array}{l}\text { All } 80 \text { Column } \\
\text { Models (Please }\end{array}$

 

$24 / 200 / 240$ \& 54.45 \& 515.95 \& state \& 584.95
\end{tabular} ACCESSORIES

$9 / 2 \mathrm{APin}, 80$ Column Colour Kit (not 124) $\quad 537.95$ 24Pin, 32 K RAM Expansion (not 200/240) 513.95 24Pin, 32K RAM Expansion for 200/240 $\$ 19.95$ 24Pin, 128 K RAM Expansion (not 200/240)

| RIBBONS: | MONO | COLOLR | AUTO SHEET FEEDERS: |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| 1C10/20/100 | 43.95 | 55.95 | All 80 Column |
| LC.200 | 55.95 | S10.95 | Models... |
| LC24/200 | 56.25 | \$12.45 | (Please specify |
| INKJET CART | RIDGES: |  | model when |
| SJ48 | 515.95 | NONB | ordering) |
| S5144 | \$10.95 | 512.95 | 84.95 |



## INKIET CARTRIDGES

 MONO COLOLRDeskjet/Deskwriter $\$ 21.95$ Doubbecife $\$ 22.95$ sundard Paintiet $\$ 21.95$ \$27.95
PAPER/TRANSPARENCY FLLM:
Single Shieet
$\$ 18.95$
Z-Fold
Transparency Film ( 50 Sheets) $\mathbf{\$ i 9 . 9 5}$

Amiga Boards

Now you can expand your Amiga beyond the capabilities of many "business' computers with Harwoods upgrades.

## mizzard 1200

 Memory BoardWinner of Amiga Format's Gold Award with a $93 \%$ rating the specification is impressive... amb RAM as standari \& option to add a further iM 2Bit LGGINING FAST Zero wilt state FAST RAM
(nornually quicker than PCMCAA cands)
Real Time battery backed dock

Easy A1200 Tripdoor' fiting reteining CBM Warranties Compact design utilising latest SMT technology Full Two year warranty
BLIZZARD $1200-4 \mathrm{Mb}$ BOARD
4Mb. RAM Expansion (Blizzards own)
33 MHz . FPU Maths Co-Processor
BUY ALL THREB TOGETHER POR JUST... $\$ 369.95$
Wentrard 1230
Bitite
Acceleratornt
From the makers of the acclaimed Blizzard 1200 RAM Board comes a great A1200 Accelerator... $100.50 \%$ performance increase on all applications (with additional on board RAM)
Optional fast (up to 10Mb/sec) DMA SCSLII interface for CD ROM etc. (CDTV, $150-9660$ Formats), Removable Drives (syumets Bernoullie etc) as ued on Macintoch 40MH2 6SECO30 Processor
 . 1 p to $6 \mathrm{6iMb}$ of 32 -itit RAM using standard 72 Pin SIMM Battery backed ral time dook
Easy trap door installation. Does NOT woik No software required, fuss plogg in and got BUZZARD 1230 TURBO ( 0 Mb .)
iMb. RAM Expansion, 32Bit SIMM 33MHz FPU Maths Co-Processor 5244.95 579.95

## - FASTEANE 23 SCSH-11 interface

Lightning FAST Hard Disk access for all Amiga A 4000 owners. The only IDE answer. Fast (up to 10Mb/sec) DMA SCSLili interface for CD ROM etc. (CDTV, ISO-9660 Fornats), Optical/ /emorable Drites (Syquests etc) as used on Apple Maxintoosh etc. Expandable up to 64 Mb of 32 -Bit Fast RAM Requires no Buster Chip uppradett 4. Compatible wilh all existing A miga Ato00's 5. $4 \times$ 32-Bir SIMM Sochrts

Exceptional Value FASTLANE Z3..
5329.95


GVP 1230 - With 0Mb. RAM 6249.95
GVP 1230 - With 1Mb. RAM 5309.9
GVP 1230 - With 4Mb. RAM $\$ 499.95$
Ask about RAM upgrades and Maths Co-Pro's

## NEIT SUPRA Turbo 28 MHz Accelerator

Compatible with ALL A500's \& A500Plus (A1500 \& 2000 versions available, please ask for details)... Pluge into sidecar expansion shot A So0:A500 Plus Specals up your Amiga -up to FOTR mMES NORMAL. SPED With throughpor for ReM/Hard Drive Expansion etc.
 Any sidecar or GIP HD REM already fited is FAS RAM A1200 Performance at only...

Shown on these two pages arè fust selections of our extens ve range of Amiga Peripherals and Accessories which we are continually extending as new products become available. Please phone us if the item you need is not listed or to enquire about latest news.


Pornography has enjoyed a new surge of public outrage of late, due to its apparent transference from the realm of the dodgy, under-thecounter video peddlers to the hi-tech world of computers, modems and digital telephone lines.

Although video is and looks set to be the main outlet for dubious material of this kind for at least the foreseeable future, the fact that digital, computer-based pornographic images and sequences are being discovered much more frequently is undeniable.
The situation was brought to a head recently with the uncovering of computerdoctored images depicting children in pornographic poses; they were actually the bodies of (young) adults with pictures of children's facial features superimposed onto them to get around the law.
It is easy to work out why such material is cropping up more and more regularly because, unlike pornographic magazines, computer porn can be duplicated with absolutely no loss of quality, so every time a copy is given to someone else, the number of copies in circulation is simultaneously increased.

## SORDID

The tabloid press have, of course, squeezed every last drop from the sordid tale. After the epilepsy saga (computer games have since been cleared of any link with the inducement of epileptic fits), our cousins in the console sector are now facing a Monopolies and Mergers Commission inquiry into game prices.
The whole porn debate is adding to what is perceived to be the computer industry's image problem in the eyes of the public, or at least in the eyes of the press who purport to reflect public opinion.
In order to engage in any meaningful discussion of the phenomena and how it can be tackled, it is necessary to have a definition of pornography. As is often the case with definitions, here is where the problems start.
We all know pornography when we see it. Anything concerning itself with explicit sex scenes involving children is deemed by virtually everyone as being highly porno-

graphic and nothing short of disgusting.
Animals don't fare much better, and three or more in a bed, as well as gay/lesbian sex scenes, are probably next in terms of outrage value.
Moving on, we have hard porn involving one man and one woman, followed by soft porn involving the same, then Penthouse-style soft porn and finally Page 3 -type models wearing smiles and bikinis.
The point is that pormography can mean different things to different people. Something which a middle-aged man finds acceptable will probably be far from so when presented to a 12 -year-old child.

So for the sake of our argument, let's accept two definitions of pornography. The first is that it is material valued for its erotic rather than its artistic merits. The second is the definition which the law chooses to use, which is that pornography is material deemed likely to corrupt the person viewing it.
This last point is important, because it means the Director of Public Prosecutions must decide in each individual case whether the severity of the material is likely to corrupt the individual(s) supplied with that material.
We've already established that more people are viewing computer porn. The problem is that due to the medium upon

## . ... a rapid increase in the number of minors viewing this material

usually deemed most likely to be rupted by sex-based images sequences, we can understand why suddenly seem to have a computer p crisis on our hands.
The actual material does cover all bus From PD disks put together by spotty 2 lescents with healthy sexual desires but appealing way of satiating them, cal things like "Girls" and usually contair nothing more offensive than Baywatce the legally-on-sale Lovers Guide (only sale to adults, whom it is deemed it is likely to corrupt) to highly dubious letin boards on the continent contain images of sex with dogs and worse,
which it lives, this rapid increase in the amount of pornography around includes an even more rapid increase in the number of minors viewing the material.
And with children being the group
whole range has been digitised and is no


Still trading despite exposure on Roger Cook Cook Report. This is Bamse BBS's opening screen



## FEATURE

tralable. It includes "interactive" softvince where for instance waggling the joy--us controls the speed of intercourse for ar lady couple on the screen, is availatir, as are old-fashioned sets of still, pacd photos.
Tir whereas most minors have in the Ter been exposed (usually at school) to prshelf, softcore porn which is if not -rpted, then grudgingly tolerated by -at. new, computer-based methods of atrbution have led not only to more ongters seeing porn, but to that porn lung much more hardcore than ever 4-
limages can be converted from maga-
zines to computer data with a scanner "grabbed" from video into a computer's memory, with the use of a simple animation viewer even a computer as accessible as the Amiga is quite capable of showing short, detailed sexual animations. And the storage capacity of one CD (as the Lover's Guide demonstrates) is mind-bogglingly large. Once in a computer

1950/60s - Pornography is seen in printed form, both in "soft" legal publications and illegal, usually imported, magazines whose contents - often involving children and animals, but always some form of explicit sexual act - are defined as "hardcore" porn.

1959 - Obscene Publications Act makes it a crime to distribute such material to those it is likely to corrupt.

1960s - The emergence of cine-filmed pornography brings it to a wider audience, and for the first time moving images become a player in the field.

Mid-1970s - Advances in video technology lead to porn being
distributed on videotape. With this development, easily distributed motion pornography becomes a reality, and video porn

1990s - Continually improving graphics, file suppression techniques, disk storage capacilities and other hardware improve both the methods of distribution and the quality of porn on offer.
is still perceived as the single largest problem area.


#### Abstract

1980s - As computer technology gathers pace, porn displayable using these new machines appears. The emergence of bulletin boards (BBSs) where porn can be "downloaded" from a remote base into a home computer, makes access to it simpler than ever. Disk-based porn becomes a reality.




## A chronology of pornography

format, data is usually made available to users via bulletin boards, or BBSs. Basically all you need to set up a BBS is a computer, a modem, and a very, very large hard drive to store all of the pictures on. Your "customers" then simply telephone your modem, access what they require and download it into their machines via the telephone.

Equally, many BBSs have an upload facility, whereby the user can send their favourite pictures to the BBSs for other users to access.

In our investigations we discovered a

> With computer porn the current media darling, Phil Morse investigates a trade which is increasingly making the switch from illicit videos to the computer screen



number of pornography-peddling BBSs in places as far apart as Holland, the USA and Norway. With names like Bombs BBS and Tiger BBS, they advertise within their underground network, so it is very likely that a user who has found one of these BBSs will know the numbers to access many more.

Outrageously, Banse BBS in Holland, which was exposed on investigating journalist Roger Cook's The Cook Report television programme, was still running at the time of writing. In the past, public domain libraries have also been the source of computer porn.

Since some well-publicised prosecutions over the last two years, the PD porn problem has seemed to die down, in Britain at least, with only the very mild, previously-mentioned "Girls"-type of disk surviving the application of the law.

To make it quite clear how sophisticated images sent along phone lines are becoming, one British police force have a 5 Mb , one-minute movie in better-than-broadcast quality, pulled down a telephone line by them from the States.

This particular sequence was for the PC and would not work on the Amiga, but we all know the Amiga's abilities when compared to those of an average PC , so it must be obvious that such stuff is equally as likely to appear on the Amiga.

Another fact which does nothing to help prevent the spread of porn is the transfer-


ability of files across computer platforms. While the spread of, for argument's sake, piracy is limited to the computer platform the game was originally released for - a pirate copy of Lemmings for the PC is no good for your Amiga, for instance - standard picture files can be read on most modern computers, regardless of the machine they originally came from.
With just a modem, a phone number and a modicum of computing experience, anybody can download such porn. Children are often more computer literate than their parents nowadays, and at increasingly younger ages, which is a particular cause for concern.

And anyway, whereas in the past youngsters may have "found" magazines hidden by fathers or elder brothers, now they can "find" images stored on hard disks or CD-ROMS, such as the Lover's Guide and Virtual Valerie CD products both of which are quite legal for adults to buy.

## CIRCULATION

Once a child has got this far, it is reasonable to assume that they will manage to put the images onto a floppy disk or two to take to school for adoring friends to duplicate. Thus dozens of copies, which in turn will be copied, are put into circulation from one initial input into the system from a BBS or other source.
Not surprisingly, the police have encountered several pressing problems in attempting to counter this situation. They must have fully trained staff who are quite capable of conversing across the various


The stark difference between a hardcore BBS in America...

...and a respectable British-based system
recently, Radio Luxembourg flouted British
computer platforms, and have the technical knowledge necessary to do everything the porn merchants can do with their computers.
They also need investment in the equipment which will allow their trained staff to do the above, and in many cases it's investment that has to begin literally from scratch.
One thing which has changed in favour of the anti-porn lobby in the past year is the level of public awareness. Few police forces have porn far from the top of their agendas nowadays, whereas barely a year ago most forces weren't even aware of the problem, let alone equipped to do anything about it.

But even with a fully-trained staff and up-to-date equipment, there are still major problems for anybody trying to regulate the transmission of such material. Until

broadcasting laws by transmitting programmes in English, to the UK, from Luxembourg, where they were set up legally. Something deemed illegal in Britain can, therefore be perfectly legal somewhere else.
The age of consent laws for females is a point in hand: while it's 18 in the States, it falls to 16 in the UK, 15 in Denmark and as low as 12 in some places.
In Bangkok it scarcely matters whether some of the shocking acts of debauchery which go on there are legal or not; the

## - It is technically illegal to import

 pornographic material
police appear to be so slack and/or powerless to stop it that sick celluloid seems to leave the place at a phenomenal rate, bound for digitising and transmission across Europe and the USA.

And who is policing the telephone lines in and out of the UK? Well, ignoring conspiratorial theories that big brother knows everything and we're all being bugged, it seems obvious that nobody has the time or manpower to police everything that enters the UK by electronic means - we're not going to see Telephone Customs in the near future.

Certainly it's out of the jurisdiction and scope of the telephone watchdog bodies OFIEL and ICSTIS.

It is, actually, technically illegal to
import pornographic material from countries where it is legal into the UK, but this has never been tested in the courts, due it no small part to the problems outlined above - plus, if someone is caught with such material in the UK there are other laws which they would be prosecuted under.

Looking at the Amiga in particular, things are unfortunately getting worse. In the past, the Amiga has not been able to match the PCs and Macs of this world either graphically or in CPU speed (the overall speed of operation is slower).
Basically, the Amiga has not had enough power to handle the really realistic and complex, and thus the really potentially corrupting, pornography.

Unfortunately, with the new base-level Amiga, the A1200, equipped with more standard memory, better graphics and 1 faster processor, the most popular schoolkid's computer just grew up. The range and accessibility of pornography to Amiga-owning minors has always been greater than other computers; now the gap in the scope and quality of such ports is being considerably narrowed too.

Let's throw in the problem that BBS have quite often got absolutely no idea as to who is accessing their systems, and se? can make no judgement as to whether the material they are supplying is "likely to corrupt" the viewer, and we can see that there are very large problems involved in any attempts to control this phenomena. So what is being done? To start with theres a considerable tightening of the law, which is going on at the time of writing and looks set to strengthen the armoury of the police against the peddlers. At the Tory conference a feur

tonths back, John Major spoke in his nfamous "back to basics" speech of a ghtening of the Criminal Justice Bill, bich is set to go through the House of ords at the time of writing, to specifiIlly outlaw the type of doctored images children spoken of earlier.
Michael Howard outlined the governent's position quite clearly at the end of wember last year:

- New technology continually presents ow challenges to the law. I am deterned the law should keep pace with tem and I will not hesitate to act whenNer those who degrade children find nveans of peddling this material."
He goes on: "We must send the clearnt possible signal to pornographers that trir activities will not be tolerated. It is tal to take tough measures at the outset $I$ we are to succeed in stamping out this e trade."
This tightening of legislation will, if it becomes law, affect video pornograby too, which will help the computer om cause a little by attacking one of its ain sources of material.
One law which has not been tested yet the courts, due to the suitability of the Ibscene Publications Act for this purse in the past, is the elecommunications Act (1984). Tucked way in Section 3, Subsection 41, it states at people who transmit obscene mateal commit the offence of using the teletone networks to do so. This offence ould soon become punishable by up to ree months of imprisonment.


## LEGISLATION

It could prove to be a particularly usepiece of legislation for the police, as sould they come across a British BBS arrying pornographic material but material which it could be construed is waptable for adult viewing, a prosecuon could still be successfully executed a the grounds of the phone lines being sed for its transmission.
While this might smell a little of Big rother, if children are accessing pornoraphic BBSs, it's a welcome method of tting those sources down and deterg them from starting up again.
Other proposed changes to the law clude a beefing up of the powers zanted to the police under the Obscene blications Act; such crimes now carry Ee threat of arrest for those involved, ad are classed as serious arrestable ffences. Section 1 ,offences under the


But are you -

- Confident - or Not?
- Sexually Attractive?
- Aware of the Differences between Men and Women?
- With the Right Partner?


## In Love?

Purporting to be educational, the Lover's Guide's teaching bits are half-baked and highly rudimentary - but it does have ten minutes of filmed sex!

Protection of Children Act 1978 are now also dealable with by arrest, and the wording of the relevant sections of the act has been changed in order to clarify the position and assure complete coverage of computer-generated images. These amendments too should shortly become law.
But there's more to dealing with a problem as complex and ingrained as this one than just a tightening of the law after all, we've seen the difficulties the police have to overcome to apply laws. Although the new legislation should make things easier, other approaches are vital too.
Sgt John Ashley, of Greater Manchester Police's Obscene Publications department, acknowledges the increase in public awareness as opening a number of paths for fighting porn, or at least clearing the brambles and nettles from a few overgrown ones.
Public awareness always leads to more self-policing: it's easier to get away with something when the public at large have no clue as to what exactly it is you're getting away with. As the porn underground becomes more exposed, people will become more reluctant to engage in such activities.

Also, says Sgt Ashley, this public awareness will convince those people who know nothing about their childrens' computers to learn the basics, and those


The best way to fight computer porn is to educate parents

struggling to get to grips with the technology will at least realise that they should learn how to check for such material on their own/their childrens' machines.

And, by making aware the parents and educationalists who have, in the past, also been oblivious to the extent of this rapidly growing problem, the number one battle against many crimes education - can begin to play its part too.
"The publicity in the media and public interest is increasing public awareness," says Sgt Ashley, "but it'll probably make our jobs harder - people are now aware that we are doing this work."
But whether this increased exposure of the problem is a good or bad thing is academic. The computer porn "scandal" is out, and it remains to be seen how effective the new laws will be. As Sgt Ashley says: "The best way to fight computer porn is to educate parents."



## To the future...

As computer technology becomes more and more sophisticated, so the quality of the material available and the ease of distribution will improve.

The amazing graphical resolution of the new generation of home computers, such as the AGA Amigas, means that better-than-broadcast quality graphics are becoming a reality.

Such machines contain faster processors (it's a big leap from the A500's 68000 to the A1200's 68020 and the A4000's -030s and -040s), demand better monitors and require more memory, all of which make them far more capable of handling a large number of high quality graphical images with ease.

## CRAMMED

As data compression techniques become more and more sophisticated, so larger and higher quality files will be crammed onto disks.

And when high density disks which can hold twice the data of the normal-density variety currently dominant - become the norm, so the problem will become even more acute.

Modem technology has leapt forward an incredible amount in the last few years. From the initial ability to transfer what then seemed like a staggering 300 bytes a second along a phone line, nowadays it has recently become possible to buy modems which can transmit at 19,200 baud or above - an increase of 6,400 per cent!

## SECONDS

Putting it another way, a picture which would take ten minutes to download on a 300 baud modem would take seconds on a modern model. And that's before the data compression techniques have been take into account..

As CD-ROM technology becomes established, the ability to record fulllength, film-quality pornographic sequences onto $C D$ for viewing and manipulation by computer will also become a reality - and as with all digital media, CD-ROMs don't degrade.

Already, "movies" have appeared on the PC platform. With CD-based products like the soft porn Virtual Valerie and the Lovers' Guide appearing, the chances of similar products appearing on the underground are high, and the potential content matter of those products depressingly predictable.

# GACTHEIU= 126 Fore Street, Upper Edmonton, London N18 2AX Tel: 081-345 6000 Fax: 081-345 6868 

RAM
A4000 (32 BIT RAM)
1 MB $£ 49.95$
2MB . 69.95
4MB £149.95
A1200 Ram with clock upgradeable FAST RAM board to 1, 2, 4 or 8 mb with optional floating point unit
1 MB no fpu .....  889
2MB no fpu ..... £115
4MB no fpu ..... £179
8MB no fpu ..... £359
SPU for above (also for A4000)
20 MHZ ..... £35
40 MHZ ..... £114
£154
A600 RAM
1MB no clock ..... £23.95
1MB with clock
1MB with clock ..... £39.95 ..... £39.95
A500 RAM
1/2MB no clock ..... £14.95
1/2MB with clock. .....  24.95
A500+RAM
A500 +1 MB ..... £23.95
Simms RAM for GVP Hardrives
1 MB 32 bit ..... £29.95
4MB 32 bit ..... 149.95
Simms RAM for GVP (A1230)
1MB 64 pin ..... £49.95
4MB 64 pin ..... £179.95
PCMICIA CARDS
2MB ..... £109
4MB ..... £169
HARD DRIVES
Amiga A500 + A500plus
IDE controller for A500 and A500+with 8MB RAM option for standard$2.5^{\prime \prime}$ or 3.5
P.C. compatible hard drives

| 65 MB with controller ...................£209 |  |
| :---: | :---: |
| 85 MB with120 MB with |  |
|  |  |
| 200MB with |  |
| 250ME mith Confrotier | £319 |
| with control | ..£33 |
| 420 MB with controll | £36 |
|  |  |

Hard drive for A1500, A2000, A3000 and A4000 (Spec as above)
Controller only .....  89
65 MB with controller ..... $£ 209$
85 MB with controller ..... £249
120MB with controller ..... £279
200MB with controller ..... £299
250MB with controller ..... £319
340MB with controller ..... £339
420MB with controller ..... £369
540 MB with controller ..... £399
New Olctagon 4008 SCSI-2 controller with up to 8MB upgradeable for A1500, A2000,
A3000+ now A4000
Controller only ..... £99
170MB with controller ..... £299
340 Mb ..... £349
540MB ..... £549
1.2 G-Byte ..... £899
2.0 G-Byte ..... £1599
4.0 G-Byte ..... £2499
COMPUTERS
Amiga A4000/040 + Hard drive

| 85MB 2+4RAM …................ 181895 |  |
| :---: | :---: |
|  |  |
| $200 \mathrm{MB} 2+4 \mathrm{RAM}$ | £1939 |
| $250 \mathrm{MB} \mathrm{2+4RAM}$ | £1979 |
| $40 \mathrm{MB} 2+4 \mathrm{RAM}$ | £206 |
| 420 M |  |
|  |  |

Amiga A4000/030+
Hard cirive
85 MB 1+1RAM ..... £899
130MB $1+1$ RAM ..... £969
200MB 1+1RAM ..... $£ 999$
$250 \mathrm{MB} 1+1$ RAM ..... £1039
340 MB 1+1RAM ..... £1099
426MB $1+1$ RAM ..... £1199
$540 \mathrm{MB} 1+1$ RAM ..... £1299

## Amiga A1200 computers


Desktop Dynamite pack for above please add $£ 40$
Amiga CD32 ConsoleCD32 with four games$£ 289$
MONTROS
Commodore 1942 ..... £33:
Commodore 1940 ..... £28
Commodore 1085 .....  £38
SVGA Monitor .....  19
PRINTERS
Hewilett packard
HP 310 .....  £26
HP 500 Colour ..... £29:
HP 1200 Colour ..... £1399
HP 4 Laser printerCitizen
Swift 90 colour ..... £15
Swift 200 colour ..... £20
ProJet I ..... £25
Seikosha
SP 1900 £124.9 SP 2400

$$
\text { SL } 90
$$

$$
£ 15
$$

$$
\text { SL } 95
$$ ..... £29

Star
LC 20
LC 100 colou£1
LC 200
LC 24-30 colour
LC 24-300
SJ 48 BubbleJet£22
Fargo

## DISK DRIVES

## PICASSO II

MB version ..... £289

## HARD DRIVES

## 2.5" Internal Hard drives for A600 and A1200

OMB
5 MB ..... £119
5MB ..... £149
20MB ..... £209
29 MB ..... £329
11 with $2.5^{\prime \prime}$ IDE cables

NEW NEW NEW NEW

Supports Mitsurni Lu005 or FX0011D CD Rom drive
Includes SO 9660 CD-ROM filesystem

* Includes "playCD" utility for audio operation
*Complete online documentation
- Compatible with workbench 3.1 cd File System Babel CDFS, ASIM CD-ROM filesystem and single photo C-Ds
- Supports most IDE hard drive

TANDEM ..................................... $\mathbf{£ 6}$
TANDEM + CD ROM.............. $\mathbf{2 6 9}$

40MHZ A1230/4MB RAM for A1200
SCSI Module .....  79
MULTIFACE CARD 3
Multi I/O card for Amiga A1500 A2000 A3000 or A4000 2 additional serial ports and 1 parallel port $£ 99$
SCANTER
ALFADATA 256 Greyscale scanners for A500 A500+ A600 A1200 A1500 A2000 A3000 and new A4000
AD 105 with Touch up and merge it Software .....  119.95
AD 105+ with Touch up and merge it and OCR Software ....
(A0 $105+$ require 2MB RAM ad hard drive)
ALFA COLOUR
256K 18 bit colour scanner for all Amiga system AD 105C ............£339 MIGRAPH COLOUR BURST 262144 colour scanner with OCR
POWER SCANNERS
Power Scanner 4 (mono) ..... £119
Power Scanner 4 (colour) ..... £239
Power Scanner 4 + OCR ..... £159
Power Scanner 3 ..... £99

## EPSON

Epson GT6500 power scan .......£699
Epson GT6500 ASDG ................£789
Epson GT8000 power scan .....£1199
Epson GT8000 ASDG .............£1298

## GVP ACCELERATORS

40MHZ A1230/OMB RAM for A1200
$£ 235$

## MICE AND <br> TRACKBALL

ALFADATA 290 DPI mouse ..... £9.99
ALFADATA 400 DPI mouse ..... £29.99
ALFADATA optical Pen mouse ..... £34.95
ALFADATA cystal trackball . ..... 29.95
GASTEINER 40 ..... £8
ACCESSORIES
Dust covers ..... £6
Disk Boxes from ..... £5
Monitor stand .....  10
Real Time clock A1200 ..... £15
Scart cables ..... £10
Printer cables. ..... £5
Modem cables ..... £8
Null cables ..... £8
SCSI cables ..... £8
2.5" IDE cable ..... £10
$2.5^{\prime \prime}$ to $3.5^{\prime \prime}$ cable ..... £15
Auto mouse/Joystick switch....£12.99
Philips 8833 II cable ..... £10
Branded disc (10) ..... £5
$3.5^{\prime \prime}$ internal drive for Amiga A500£4$3.5^{\prime \prime}$ internal drive for A600£79
POWER SUPPLY
A500-A1200 PSU

£34.95 ..... $£ 79.95$
TEW NEW NEW spectal (0) $=-8$
Disk Expander for HD and floppies ..... $£ 35$
GIGA MEM Virtual memory for all Amiga with MMU ..... $£ 39.99$

## Repair service

New service/centre for most Amiga computers. We offer a quotation service of [10 for which we will examine your computer and report back with an exact quotation price for the repair. If the repair is carried out the $£ 10$ is then deducted from your bill.

## How to order

When ordering by telephone please quote your credit card number followed by the expiry date and also your full name and address. If paying by cheque please make it payable to Gasteiner Technology. In any correspondence please quote a phone number and also a postal code, please allow five working days for cheque clearance

> Delivery charges
> Small consumables and software items under the value of $c 59$ please add $£ 3.50 \mathrm{P} \mathrm{\& P}$. Other items except lasers, next day courier service $£ 10$ per box. Offshore and highlands, please call for a quotation. In addition, we offer the following express services:- Saturday delivery normal rate plus $£ 15$ per box, Morning, next day normal rate plus $£ 10$ per box. E\&OE prices subject to change without prior notice. All trademarks acknowledged.

# Making <br> everything it does does with a certa flair. 

One of the prime move behind the success of Amiga in Hollywood British guy called R Thornton. He began using Lightwave portion of the Vies Toaster to create special effects replace the miniature models trit tionally used to bring spaceships $=$ planets to the screen.
We spoke to Ron at his studio California and asked him about the Amit Babylon 5 and movie madness in the entit tainment capital of the world.

## LEADING

Anyone who reads Amiga magazines watches TV can't fail to be aware of work of Ron Thornton. He was a lead special effects man and model maker in UK on cult BBC shows like Doctor Who $=$ Blake's 7, a number of hot sci-fi movies Terminator 2, and now is the creator of visual effects for the Emmy award winn sci-fi TV show, Babylon 5 , soon to be airs on Channel 4.

But Ron wasn't always a special effec

better coverage in those days to techniques and effects and things. There would be close-up photographs in there of what people were doing, and I kind of got the hang of it from that.
"I bought the odd kit, typical sci-fi models just to have a look at them to see what came through the kit process. I got the Millennium Falcon kit and I started spotting all these tank parts on it, and I thought 'Aha! I can see how this all works'."

But model making was only half the story. The secret of good models is the painting and surface detail.
"A lot of my painting techniques were taught to me by Martin Bauer and Bill Pearson, who were two incredibly talented model makers, who did everything from Alien to Outland and Flash Gordon. Martin Bauer used to be the chief model maker on Space 1999."

After that it was just dogged persistence and making sure he turned in good work all the time. Ron went to live in California in 1985, where he still lives and works today. Foundation Imaging is based in a place called Valencia, which is about 30 miles north of Los Angeles, so they're

[^4]from Babylon S, and it's all Ron's doing
close enough to Hollywood but far enough away from LA. "We're between the desert and a mountain range."

Ron ended up there in the middle of nowhere in the USA after a series of BBC cutbacks. "It got to September of 1984 and I was doing various freelance work for BBC shows, and the head of the visual effects department at the BBC sent this memo that said that they couldn't do any more sub-contracting. There was no work around so I had to start working on my contacts over here in the USA."

How did he go about gathering contacts in Hollywood? The answer was simply that he wasn't actually just going over there cold and saying "giz a job" - he'd been on a tour of the main effects houses a few years before and had picked up some contacts then.
"The first job I did for Dr Who made me a small profit, and I used the proceeds to take a trip to California. I called up all the places over here that did effects and would just go and see them.
"Those people would give me the names and numbers of people at another place, and so it went on. It was great, there


Hollywood... was were I really caught the bug
was me with my first job and I was walking around the places where they made Buck Rogers, Battlestar Galactica, Star Wars... it was very, very cool. That was where I really caught the bug."

And picked up a lot of very useful names for the old Filofax, eh? It didn't hurt that Ron was working on Dr Who of course, which gave him a bit of an "in", but still you have to want something pretty badly to travel half the way around the world on spec.

So, what's Ron Thornton's idea of the best bit of computer graphics in the movies in recent years? Ron's answer is predictable enough.
"The stuff in Jurassic Park, without question. I find it hard to think of anything that could beat that. It's just perfect. But then for $\$ 15$ million it should be!"

Ron's very clear on what makes good computer FX and it's not a lot to do with computers. "The people who did it are film makers, not computer graphics people. They've got a great film 'eye'.
"Their compositing is just superb, their motion tracking, and just the general matching of effects to live footage is superb. I think they're an absolute shooin for the Oscars this year, and no mistake."

How long will it be before we can do things like Jurassic Park on the desktop? Can it ever be done? "It can be done now. But you've got to really work at it." What do you put into the gap vacated by the 15
$>$
million spons, when it's just you, a rainy Saturday, an Amiga 2000 and a 3D program? "Hard work, basically. Yeah really. It's not so much the 3D considerations but lining up shots and matteing the effects with the action. That and being very skilled at it. These people are very good at their jobs."

OK so we're not film makers here at $A C$, but we are big 3D fans, so we had to ask does Ron have any professional hints for would-be computer graphics special effects men of the future?
"Attention to detail. It's easy to create shapes and render them, but you have to observe the smallest details and be very critical. That and making sure that you're very good at it."

And when do you stop fiddling about with the details, and when is a model finished? "I can't say I've ever been 100 per cent happy with any models I've ever made. You have to keep looking at your models and saying to yourself how can I make this better? How can I make it more real?"

That means that you must edit and alter the model and make sure it's as perfect as it can be before you can ever say it's finished.

## EXCRUCIATING

Making a shape and lighting it in five minutes isn't how it's done. It's this excruciating attention to detail which has earned Ron all the plaudits and critical acclaim that he has over his career in film.
"One of the best things to do as well is get go and get yourself a lot of reference material. If you're doing a sci-fi type model, either rent yourself a load of sci-fi videos, or pick up books from somewhere like Forbidden Planet, where you can look at what models really look like, see what textures are on them and try and duplicate them.
"Go and rent a bunch of videotapes of Thunderbirds. Don't just sit around and have fun with it, really look at it carefully because some of the model making in that show was just fantastic, and you can learn a lot about ageing and dirtying down from that."

Of all the models and effects Ron has
done over the years, what are his favourites? "Most of the models I've made I'm not particularly proud of, although the Scorpio was a nice model, and they gave me a lot of leeway in the design, detail and textures on it. And it really could stand up to an awful lot."

The Scorpio, of course, was the space ship in which Blake's 7 did their spacefaring, after the original ship The Liberator was blown to bits in the penultimate series.

Owners of the recent Blake's 7 videos will of course be aware that the model is very closely detailed, and can stand some quite close-up shots.
"When I compared it to some of the models over here it was actually better, which really made me feel good about it. I did put a huge amount of time into it. I think if you calculated how much I got per hour for working on that ship it would probably work out at about $£ 2$ an hour, if that. Fifty pence more like. I was working about 14 to 15 hours a day on that thing."

Ron's favourite model on the Babylon 5 show is in fact the Star Fury, the Babylon 5 fighter. "It's very different in the way that it looks. It's just this chunky, ugly looking thing, but it does have a certain beauty to it... it's sort of like Thunderbird 2, a big old ugly thing.
"It was the same sort of philosophy, I didn't want them to be graceful, just utilitarian. Built like a brick shithouse. Whereas all the aliens have all these beautiful ships.
"The animation on these ships is phenomenal. Every time a ship moves it's got to blow a thruster, so if a ship banks you've got to hit the top right and bottom left

so you just get this whole feeling of vertigo. There isn't an up or a down, and you don't know which way you're going."

With so many ships to design, doesn't Ron ever run out of ideas? Where do the ideas come from then? "Everywhere. Sometimes from vegetables, there are quite a few ships that are based on food, just for the hell of it.
"The Vorlon ships are inspired by garlic, of all things. Looking at books of deep sea creatures, you look at all of these forms and you grab something and try it. It's a lot easier to do that in a computer.

## SHORT CUTS

"To efficiently make a space ship as a model, a miniature, you've got to take a lot of short cuts. You have to do stuff like kit bashing', pulling pieces of detail out of tank kits, otherwise you just spend forever making it.
"And if I wanted to do something unusual like a crustacean, I'd have to start sculpting or moulding crab shells. But in the computer realm it's quite a lot easier."

As well as modelling and the ability to make and edit shapes easily, techniques can be developed which give your objects in 3D more life and realism.
"It's not just the shape and colouring of an object. It's all in the textures. It's all in the paint job, it always is, even if you're building real model spaceships.
"When you build it you'll spray it with primer, and it'll look like shit. But when you actually start to age it and dirty it down a bit of painting, then it begins to show. And that's what separates good computer graphics from bad, 'computery'-looking graphics."

When Foundation have been doing big shots for Babylon 5 with a large number of ships, sometimes in the hundreds, generic
textures are used to give the ships a qu 'look'. But this isn't the best way to do it
"An object can look just OK when use a sort of generic texture on it, but very best models are made with differ textures for all the surfaces. And dat labour over a paint package to make textures.
"A good example would be grass, What would you do in a paint packagr get that texture? If you just photograpt and digitise it you just get a great look. T to anything and everything for yo material."

One of Ron's favourite techniques based on a neat trick using Lightway whereby a custom-drawn image, like plates for example, is mapped onto the face of the object twice, once as the diffur map and again using the same image specularity map.

This means that the plates in the hull only have a different shade based on general colouring of the ship, but some b a different specular value, affecting the they reflect light.

This adds a lot of surface detail action on the surface of the model wt light plays across it, and makes the obje look more real. Real objects don't ref light evenly, so why should compu models?

What about the future for Foundats Imaging? "We're doing some tests for a version of Dan Dare, which is looking re great. It'll be really good if it comes off."

The film is in the works and as is the with these things may or may not get m for a few years, but Foundation are eass the best choice for the spaceship effectr especially with Ron's taste in spaceships.

For example, when Babylon 5 was be created, Ron wanted a look more Thunderbirds or other Gerry Anders shows, where the ships were colourful new looking rather than that awful used look that Star Wars brought into vogue.
"The movie's being written by Tet Jones of Monty Python and there's a lot very good people involved in it. It sho be fantastic."

So where is computer imaging in mont and TV going? What are the extremes which we can go in this field?
"You'll get a lot more visual effects IT you'll get more science-fiction stuff. At moment we're working on a project whis is the nearest thing you'd get to a TV sett of Jurassic Park but it's not the same.
"A lot of very complicated stuff the you'd never be able to get into before nor becomes actually quite easy. It takes abos ten minutes to do a space ship shot now you haven't got the space ship, it only tal you about two or three hours to build one
"And we have a lot of pre-existing tures, so when you're creating somethi you can call up from the library someth which will look good."

- The Babylon 5 pilot film is out on video fr all good video stores, and the series begins first run on Channel 4 some time in the sear quarter of this year.

If based on food, could this be a mushroom leaving space dock?


HARD DISC DRIVES

$$
\begin{array}{llll}
40 \mathrm{mb} & \mathbf{£ 1 2 4 . 9 9} & 170 \mathrm{mb} & \mathbf{£ 2 5 9 . 9 9} \\
60 \mathrm{mb} & \mathbf{£ 1 4 4 . 9 9} & 21 \mathrm{mb} & \mathbf{£ 3 3 9 . 9 9} \\
85 \mathrm{mb} & \mathbf{\Sigma 1 7 4 . 9 9} & 256 \mathrm{mb} & \mathbf{£ 2 9 9 . 9 9} \\
120 \mathrm{mb} & \mathbf{£ 2 1 4 . 9 9} & &
\end{array}
$$

Add $£ 289.99$ for A1200 fitted with above drives．
Our 2．5＂hard drives for the Amiga A1200／A600 offer speedy access times and come complete with
fiting cable，screws and full instructions．They are pre－formatted and have workbench already installed for immediate use．Fully guaranteed for 12 months．
Free fitting service to personal callers

## SUPERB VALUE FOR MONEY

## Soundblaster

The SOUNDBLASTER is a 10 watt stereo amplifier that comes complete with high quality 3 way speakers，power supply and FREE STEREO HEADPHONES！ The SOUNDBLASTER adds a new dimension to games playing，imagine stunning stereo sound effects，crystal clear samples and terrific̣ stereo tunes．The SOUNDBLASTER also boosts games playability！
The speakers are powerful 50 watt 3 way units featuring a＂woofer， $2^{\prime \prime}$ honker and a $1^{\prime \prime}$ tweeter to provide a powerful crisp sound．

Unlike other disc backup utilities，X－BACKUP PRO is totally automatic and extremely simple to use．It is fully compatible with ALL AMIGA computers．
－Will backup virtually any disc onto another disc．
－Full hard disc backup．
－File management facility．
－Optimise，formats，repairs，verifies．
－Includes the＇AUTOSWITCH＇CYCLONE cartridge．Simply plugs into the external disc drive socket at the rear of the Amiga，and plug your external disc drive into the back of the CYCLONE cartridge for unbeatable disc backup power．An external disc drive is required for use with the CYCLONE cartridge．These are available from us priced $£ 54.99$ ．
FULL MONEY BACK GUARANTEE．
If you can find a more powerful disc backup utility，we will give you your money back．

## SPECIAL OFFER

Deluxe disc drives
Whisper quiet．Slimline design．Suits any Amiga．Cooling vents．Sleek，high quality metal casing．Quality
Sony／Citizen drive mechanism．On／Off switch and
throughport at the rear of the drive．Full 880 K CYCLONE
COMPATIBLE
254,99

Order NOW for immediate despatch Tel． 0617247572 Fax 0617244893 Telesales open 9am－6pm Monday－Friday Access／Visa accepted Send a cheque／Postal order or credit card details to
Siren Software，Wilton House，Bury Rd
Radcliffe，Manchester M26 9UR England
Government，Education and PLC orders welcome．
All prices include VAT at the current rate．Postage and packing will be charged at $£ 3.50$ per order（U．K．），$£ 7.50$ Europe，$£ 12.50$ rest of world．
Please note that 5 working days must be allowed for cheque clearance．Immediate clearance on Building society cheque or Bank Draft．


## GRAPHICS



An example of the quallty of limages you can ochleve with vial Amiga 24RT

Until now, if you wanted the ability to grab a video image in 24-bits (that's over 16 million colours, folks) you would have had to pay a princely sum for the privilege.

Enter Rombo, one of the pioneers of audio and video digitising products, and their Vidi Amiga 24RT (hereafter referred to as VA24).

For a reasonable $£ 299$, you can now experience the higher image quality which 24 bits gives you, with the added bonus of being able to do away with having to pause your video in order to get a stable image.

As well as the impressive hardware contained in the surprisingly small cartridge, VA24 also includes pretty neat editing software featuring a collection of powerful image processing tools.

The cartridge itself includes two RCAtype video inputs and an S-Video input. The advantages of these multiple inputs is that you can attach say, two VCRs in the RCA inputs and a camcorder in the S-Video input.
You can then simply and conveniently select the video source you want to grab from within the VA24 software by simply clicking on a button.

VA24 automatically detects the type of video signal it is receiving (PAL, NTSC or SECAM) and adapts accordingly.

As hinted at earlier, because of the speed with which VA24 can grab an image, there is no need to pause your video or have your video camera absolutely still.

Such speed is achieved through the combination of two very fast analogue to digital converters and 1 Mb of onboard memory


The Carousel mode allows a selection of imop to be edited or animated with ease. Any imop in memory are shown as eighth-sized pages
within the cartridge.
The two converters read the analoge video signal, converting it to the digital for required by the 1 Mb memory, into which is subsequently stored.

The only time-consuming part occe: once VA24 has "read" the video image. I image data then has to be transferred to Amiga's RAM.

The VA24 cartridge is connected to Amiga through its parallel port. This port only capable of a data transfer rate approximately 200 k per second. Once tran ferred, the pictures also have to be mixed create the final full colour image.

So depending on the number of coloe and the resolution of the image you har grabbed, this transfer and mixing proce can take a little time. From clicking on

## Darren Evans gets to grips with Vidi Amiga 24RT, the latest 24-bit real-time video digitiser from Rombo



| b Preferences |  |
| :---: | :---: |
|  | Source |
| Cs-Video |  |
| DVideo 1 |  |
| DVideo 2 |  |
| (entrol |  |
| Brightness | ness -58 |
| Contrast | st -50 |
| Saturation | tion -188 |
|  | 1 |
| Close |  |

Grab preferences allow you to select which video source socket to use as well as the screen mode to grab in


When a greyscale limage has been stored in memory, you can then mix it to a selection of screen modes to produce a full colour imop

yebb button to the final displayed image, a $540 \times 512$ Ham8 image took approximately 52 seconds on an A1200 with 4 Mb RAM -pgrade.

The modes supported by VA24 range trom $320 \times 200$ to $1,280 \times 512(1,472 \times 576$ in (verscan) in colours from two to Ham8.

The screen modes available are obviously Sipendant on the type of Amiga you have. Th24 works on all Amigas barring the A500, berefore only screen modes such as hi-res Ham8 are available on AGA machines such Is the A1200. Also, the manual states that at tost 2 Mb is required. Ideally, you will need an additional Fast RAM upgrade of at least 2 Mb or more to get the most from VA24.

VA24 will also automatically default to 16 prey level grabbing on a non-AGA machine. Having grabbed and mixed your image to your chosen screen mode, you can then save the file by simply clicking on the save button.
Before you do that however, you also luve some pretty good image processing and editing features at your fingertips. Clicking on the Edit button will take you to the VA24 editor. There are 24 image processing functions including emboss, sharpen, and they can be used to improve or com-
pletely change the image. Some of them do require a lot of memory though, especially when processing hi-res or super hi-res images. You can also cut and paste sections of an image one from area or image to another.

Some of the image processing functions are single operations, whereas other, more complicated ones require you to first enter some parameters. They also differ in the amount of time required to process.

Animation of a number of frames can be achieved through the use of the Carousel editor. Here, you can load a number of images into memory and then select and edit a range of specified frames.

You can also save out a range of frames as an ANIM file. You can also click on the Play button to see the frames which have been selected play as an animation.

The main portion of the screen is a display showing up to 12 eighth-size images which are in memory. Selecting a single or range of these images is done by simply clicking on the appropriate box. Each box is also numbered.

There are also editing buttons for deleting, moving and clearing specified frames.
Overall, the VA24 software works very well. It has lots of features and functions
which allow total and easy control over the hardware in the cartridge.
Unlike other digitisers, there are also no external image controls, such as brightness, colour and contrast, on the cartridge. All these are available within the software.

The quality of images you can get from VA24 is very good indeed. However, something to be aware of if you are intending to go out and buy VA24 is the type of video connections the video source you intend to use has.

VA24 goes some way to solve the problem by providing both a dual RCA composite video inputs as well as the S-Video socket, which gives a much higher quality image with no problems of colour saturation and bleeding.

These two types should allow you to connect the majority of cameras or VCRs without the need for extra cables. The VA24 package even includes a composite and S -Video cable so you can get up and running straight away.

However, they are a little too short for my liking and you may wish to buy longer cables for your needs.

The only time you will need to buy extra cables is if your video source uses BNC or other video connectors. Rombo can help you out buy supplying you with the necessary cable at extra cost, or you can just pop down to the local hi-fi/video store and ask for one there.

Besides being great fun to use, VA24 can be put to some useful functions. For instance, if you like to dabble in desktop publishing, you can use VA24 as a very good alternative to a scanner.

All you require is a tripod and some decent lights and you have a much more versatile method of importing your own images into your DTP documents, be they mono or full colour.

VA24 is easy to use, easy to set up and with a reasonable price tag of $£ 299$, a very good buy.

## Processing images

The Vidi Amiga 24RT software has an impressive array of image processing functions which can be used to improve or completely change the image in memory. Below are a few examples of what they can do.


Emboss does exactly that, making the image look as though it has been carved out of a surface


Negative can be useful if you digitise a colour negative photograph silide. thereby normallsing the image


Pixelise is useful for making the
image look as though it was
grabbed on a Sinclair Spectrum


Flip $Y$ simply turns the whole image upside down. As you would expect, there is also a Filp $x$ to turn it over in the opposite direction

# Your Instant Amiga Office 

Whether you run a small business or just want to organize your life more efficiently, you'll find the new Home Office Kit Deluxe has all the answers. Designed for the Amiga, it offers three powerful programmes working together as one. Without cutting back on any features...only the price!


## A Way with Words

For starters, this deluxe kit contains KindWords 3 - the latest and greatest Amiga word processor. Fast and friendly, it makes putting your ideas on paper sheer pleasure. There's everything you need at hand - page layout, automatic text wraparound, mail merge and much more besides.


## Figures Can Be Fun

Stumped by spreadsheets? MaxiPlan 4 offers sophisticated spreadsheet and database functions that are easy to handle. Create charts and graphs that make sound financial sense. It's all here - from macro commands which cut out repetitive work, to file linking and import/export capabilities.


## In Perfect Order

With InfoFile, the Amiga database manager, you can keep your business and personal life in perfect order.


## All-In-One

Put it all together and the Home Office Kit transforms your Amiga
 into an instant office, equipped with a super secretary! And at only $£ 69.99$ for the complete pack, you get three powerful programs for the price of two. Working as one highly efficient unit. ever before. You can even organize sound and graphics for stunning slide presentations!

## The Best Solutions at the Best Price

## DISC COMPANY

## Outstanding Upgrade Offer!

Yes, I want to turn my Amiga into a fully-featured, desktop office. To receive the Home Office Kit Deluxe for only $£ 39.99, \mathrm{I}$ am returning my original disk or manual cover from Home Office Kit, KindWords, MaxiPlan, InfoFile or any other word processor, spreadsheet program with a cheque or credit card payment.

| Name |  |
| :---: | :---: |
| Address |  |
| City |  |
| Postal Code | Country |
| Credit Card Number | _ Expiry Date |
| Signature |  |
| Daytime Phone |  |

Send Me $\qquad$ Home Office Kit Deluxe at $£ 39.99$ each inc. VAT $+£ 3$ shipping charge

Total $£$
$£$ $\qquad$ Cheque, Visa, Master Card, EuroCard, Switch and Money orders are accepted.
DO NOT SEND CASH. Make cheque payable to: The Disc Company (UK) Led DO NOT SEND CASH. Make cheque payable to: The Disc Company (UK) Ltd.
Send to: THE DISC COMPANY (UK) Ltd., C/O IMEDIAT, B3, Edison Road, St. Ives, Huntingdon, PE 17 4LF, United Kingdom. Allow three weeks for delivery, For additional information, demonstration disks, or broctures, visit your Amiga dealer or phone 0295252524 . Fax 0295252621
Minimum requirements: 1.5 MB of memory and two disk drives: Amiga KickStar and Amiga Workbench 1.3 or higher. All trademarks acknowledged.

| PUB | BLIC DOMAIN |
| :---: | :---: |
| $\square \mathrm{Comas} 10$ Agas sums |  |
| -cı7s î | Achess ila imec |
|  | Semmamer |
| $\begin{aligned} & \mathrm{coss} \\ & \mathrm{acos} \end{aligned}$ | ghime neme |
|  |  |
|  | 为 |
| $\square \mathrm{c} 2 \mathrm{H}$ | Whemit crive |
|  |  |
|  |  |

## Steen form

## -ane <br> $\square$ <br> ment method <br> Amiga <br> Total disks:

taf

## Credit Card Details

Credit card no:

Exp. date:




| filzoo MEMORY |  |  |  |
| :---: | :---: | :---: | :---: |
| Hawz |  |  |  |
|  |  |  |  |
| 3 |  |  |  |
|  |  |  |  |
| - 4 +403 |  |  |  |
|  |  |  |  |
| tame | 8129 | 8199 | 8399 |
| , mend |  | 8249 |  |
| \%om | 8199 |  |  |
|  |  | 8299 | c4s |
|  |  |  |  |



## BUSINESS PD

## Cisitixt Engive

mamble
Verp puefrumberibe uer deflable
datuse


Cisulom your wee
Cig GRMMAR CHECKER


DBst2 BDCEIT
Help thatef for the momit.
A.er umil we ween
$\square$ Ays coo IMTERS.




8

|  |  |  |  |
| :---: | :---: | :---: | :---: |
| $A 4000$ | A450030 2 Mgy lan |  | Ave004 <br> 6 Mreflaz |
| $\begin{aligned} & \text { Sont } \\ & \text { Hail that } \end{aligned}$ | $\begin{array}{\|c} \hline \text { 599 } \\ \text { [IPMBSices } \\ \hline \end{array}$ |  |  |
| 130eb Hand ens | $\begin{array}{\|c\|c\|} \hline 549 \\ \hline 1 \mathrm{M} 83110 \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \mathrm{Cl00} \mathrm{\%} \\ \text { HEDSM2 } \\ \hline \end{array}$ | $\begin{array}{\|c\|c\|} \hline \text { E15\% } \\ \text { IEMBIM } \\ \hline \end{array}$ |
| $\begin{aligned} & \text { 214nt } \\ & \text { Hasidat } \end{aligned}$ |  |  |  |
| 44nt Hulad |  |  | $\begin{array}{\|l\|l\|l\|} \hline 2189 \\ \hline 1090929 \\ \hline \end{array}$ |
| 525nb Hari ad |  |  |  |
| ALS |  |  |  |
|  |  |  |  | 8

## DPF Didican R30 rach



| MISC. UTILITIES |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
| CONSUMABLES |  |
|  |  |
| Alan dist cover |  |
| Maxa dest cover |  |
| Box 10piank isks PRINTEREAD |  |
| Re virus Kiler |  |
|  |  |
|  |  |

PD OVERSEAS ORDERS
$\qquad$
please add 25 pper disk. Re Handuare, C COLLECTING
 ydvised to phone it thruye prior to collection.
Ofrice houn:9 9 Samm-5.30.

ORDERIVG BY POST
Simply send your onder in on an A4 page, listing the numbers you require, he total cost, and your name \& address of if you wish simply mark off the
tites you wish to onder, fill in your nume eck, and send this page to EPIC lites you wish to order, fill in your nume ckc, and send this page to EPIC
MARKETING. Ist Floor Offices, 3la Fariggton Rd, Swindon. Wilts SNI SAR. enclosing full payment

ORDERING BY PHONE
Call any time between 9.30 \& 5.30 pm Monday to Satarday with your
redit card details and the itemas you wrold like to onder.

## Public Domain Software


$\square$

## ORDER FORM

Address.


## EDUCATIONAL

C240 FIREWORK ALPHABET
$\square$ COT2 MATHS REFLEX TEST
Answer as many questions night as
ou can as quick as you cal
you can as
DIVISION

C026 FOUR STROKE ENGINE
B991 MATHS CALCULATOR
Bi9
B915 Henyelas BOOK OF SPEL
AA20 LEARNANDPLAY
BO16 MATHSTALK
bo6s Alcebrall
E.P.U. DISK STACK

Double your disk space with this great new package, on a $880 k$ floppy disk you can fit over 1.5 meg of information. On meg of Information. Works silently in the background
Onder code: $\square$ C625

## A1300 ACTION RRBPLATA

Rip graphics, change sprites,
Rip music \& sound $f x$, etc
Onder code: $\square$ C432

## MWMWMWWMWM 10 BLANK AMIGA DISKS <br> £4.95

WWMWWMWWN

## GNIMGTONS

WALKER DEMO. 2 Meg. A truly
Cmsir animuiona of a Walker from
in Amisa No back walks aro
WALKER DEMO 2.2 Meg. The
second part is even beter, made
brilliamt.
FVE WAYS TO KILL A MOLE.
Very sick animations on bow to $k$ ilt
litle moles
FIVE WAYS
AT THE WOVILL A MOLE 2
B389-2 SKUNKS - HUNKS
${ }^{\text {B393 }}$ SEXY SQUIRREI
B395-2 SCENERY ANIMATION
B397-2 AMY VS WALKER 23 Meg
B4IO-2 MR POTATO HEAD.

B683
LEMMINGS VS RO
BEOH GLOBE (ANIM)

- B80\% GLOBE (ANMA)

B932-2 THE KING FISHRER 2 Meg,
B935-2 LEMMINS REVENGE 2 Mcg
B933-2 LEMMINS REVENGE 2 Meg
B938 TREE SONG ANIMATION.
B938
TREE SONG ANMATION.
B939 K. . NORMAN. Part 1.2 Meg.
1 B961.3 SPEED LIMIT. 3 Meg.
8953 KK. NORMA. Par 2.2 Mcg .
B954 DOLPHINDREAM
COOO-8 THE HAUNTED. 2 Meg. A wotal
of 14 Mcgikytes of animution.
cotal of 8 disks. A total of
nimates of the best animaion
mingutes of the bess animazion
voure likely to see on any Amiga.
Roddy's bes yel
$\square$ COA4 2 ROAD HOG ANIMATION - C17.2 TALES OF A TME 3 Mcp

3 BATMAN ANIMATION. DJuk
and ultmeophteric Batman a mamaion.
and aumeopheric Bamman numamion.
CRAZEE GLOO Three purt anim CRAZEE GLCO. Three part anim
DUNCS BACK 4 Meg.
STARW ARS 11.2 Meg. Enh
verion of Swarzz animution.

| Amigan 1200 printat |
| :---: |
| cotaloges. |

Amiga 1200 prin

\section*{| $\begin{array}{l}\text { Overs } \\ \text { to cac } \\ \text { appl } \\ \text { aplid. } \\ \text { Mali }\end{array}$ |
| :--- |}

## OVERSEAS ORDERS

Total disks

| Tel. | Amiga .... |
| :---: | :---: |
| Order value: E | Total disks: |
| Payment method |  |

## EMULATORS

B997 IMB EMULATOR FOR A
C465-2 SPECTRUM EMULATOR
C465-2 SPECTRUM EMULATOR
$1 \begin{aligned} & \text { CSS4 PC TASK V2.03 (AGA) } \\ & \text { B335 C64 PACKAGE V2 }\end{aligned}$

| CIS-2 QL EMULATOR |
| :--- |
| B897 KICKSTART 2 EMULAR |

C495 KICKSTART 3 EMULATOR
PC EMULATOR FOR ASOO.
C495 KICKSTART 3EMULATOR

## MORE UTILITIES

BANNER MAKER
Create ontstandiag printed banners

## PC EMULATOR <br> PC TASK ONLY

Run IBM PC XT software on your Amiga. Very easy to use
Supports Hard Drives, CD Rom, High Density \& Low Density floppy drives.
THE COMPLETE PACKAGE
Onder ref IFULL PCTASK

|  | DEMOS |
| :---: | :---: |
| We WEr biaver mix il meq dip |  |
| ${ }^{\text {¢ }}$ | mun poraiolit |
|  | THEgoonter |
| ${ }_{\text {gase }}^{\text {and }}$ |  |
|  |  |
|  | ULTMATE ARRE Rime |
|  |  |
|  |  |
|  | Catre Mt |
|  |  |
|  | Altateaziopss |
| $\mathrm{O}_{\mathrm{Cosss}}$ | enter |
|  | Spheranusitis |
|  |  |
|  | Arehroligin |
|  | otal chas |
|  |  |
|  | KEFRENS DESERT DREAMS. |
| - Cass | Santry nitrerth |
|  | INTERCLIVE dasc |
| $\square$ |  |
|  | mitixamo |
|  | HEADLINE "Black encryy", FREESTYLE "PERFECTS" |
|  | сомtex deliriom |
|  |  |
|  | TECHoLocical Desth |
|  | Itraw probicis |
|  |  |
|  |  |

Amiga 1200 Degraders
Includes various tools to degrade your A120 so it
ean run the older Amigan software. Tites included: can rui the older Amizn suftware. Tities included:
$\square$ B155 LABELLER V3,0
Create snaary labels for almost anythig
$\square$ Bi73 SlRAPHICS. Condntion Kil
Create snawzy labels for almost anything
BI73 GRAPHICS. Constrution Kit.
Miscellineous graphics tools.
BI74 CR YPTIC UTILS
A great compilation of
A great compilation of donens of asefui)
Lutilites.
B175 UNI COPY. Powerful disk copier
BI76 AMIGA PLIS ITII S A compilation of tools for the A500t.
BI77 WORKMATE UTLLS.
Superb compilation of utilities.
$\square 8178$ PETES UTILITY MIX
8179 EASY PRINT 2.
Powerful primer wol ki
$\square$ BI 80 DISK LABEL DESIGNER
BI80 DISK LABEL DESIGNER
Crate fancy coloured disk labels
Create fancy coloured disk labels. you coy
inclade texe \& graphics.

- BI82 SLICK UTILS.

BI83 BRITSTICK UTILS
B301 OPTI COMMS.
Superb compilation of varions
includes Anchivers etc as well.
B312 HARDWARE COPIER
Powerful Handware copier sofiware sim
to Cyclose, uses Xcopy dongle
B313 AMIBASE PROFESSION
$\square$ B313 AMIBASE PROFESSIONAL
Very professional datahase
B314 USEFUL TOOL.S.
B315 ASSASSINS DISK COPIERS A luge collection of different disk duplicators
B317 DIRWO
An essential purchase for the beginner.
can copy, rename, move, delete, arch
edit, protect etc any file with ease.
B320 VIDEO DAT. Nice looking vido
B320 VIDEO DAT. Nice looking video
cassette storing datatbus.
cassette storing data
B371 ENVPRINT.
Prints names \& ad
Prints names \& ad
B332 PR LABEL.
Universal lakel printer.
B333 SUPER DUPER.
copier, can copy up to 4 disks in around
scoonds.
B33 FLASH COPY v0.9.
Flashy disk copicf.
B335 A64 PACKAGE V2.0.
The Commodore 64 emulator
B359 HARD DRIVE UTIIS
B359 HARD DRIVE UTILS.
A collection of tools for tacking up,
managing your hard disk.
managing your hard disk
Learn to type properly \& fast with this
Typing tutor.
Very powerful file cruncher, easy to use
B418 DISK SPEED V4.1. Check the spe
B485 BROTHERHOOD A500+ UTIL
Good compilation of A500+ utilitics
B528 AMOS PAINT V3.7.
Very similar to Deluxe Paint.
Very smular to Deluxe Pain!
B623 IFF CONVERTERS.
Convert between PCYAtari \& Amiga.

## fil200 ONLY

D00s-3 KLONDIKE AGA.
A brilliant 3 disk Klondike game with
amazing 256 colour graphics
C627-2 MOYTOROL A INVADFRS
\& 140 colour Space Invaders game
D001 FRENCH AGA PROMO.
Superb new Al200 demonstrition.
SEE OUR OTHER AD. FOR OVER

Simply send your order in on an A4 page, listing the nombers you req $\$$ and
the lotal cost, and your name \& address or if you wish simply mark of the titles you wish to order, fill in your name ctc, and send these pages as EPIC MARKETING, Is Floor Offices, 31a Faringdon Rd, Swinde Wils SNI 5AR, enclosing full payment.

ORDERING BY PHONE
Call any time between 9.30 \& 5 . lopm Moeday io Satunday with yar
 (send sae for complete list)

## CLR EDUCATIONAL <br> ACHORD (23.50)

T.A.M.I. ( $£ 3.50$ )

NIGHT SKY ( $£ 3.50$ )
WORDS \& LADDERS ( $£ 3.50$
Snates Llasders spelling zame
ALPHABET TEACH (£3.50) FAST FRET (£3.50)
WORK \& PLAY ( $£ 3.50$ )
PLAY IT SAFE ( $(£ 3.50)$
BIG TOP FUN ( $£ 3.30$ )
JIGMANIA ( $\mathbf{3} 3.50$ )
CHESS TEACHER ( $£ 3.50$ )
SPEED READING ( $\mathbf{5} 5.50$ )
CHORD COACH ( $\mathbf{2} 3.50$ )
C.A.T.T. (£4.50)

FUN WITH CUBBY ( $£ 3.50$ )
SREHISTOAIC FUN PACK ( $£ 3.50$ )
PEG A PICTURE (£3.50)
UNDERSTANDING AMOS ( $£ 4.50$ ) Leam all atout "Hobs
MY LITTLE ARTIST ( $£ 3.50$ ) BOREALIS JUNIOR (£3.50) COMPOSITION ( $(£ 3.50$ ) and PORTRAITURE (3.50)
AMOS LANGUAGE QUIZ ( $\mathbf{( 3 . 5 0}$ ) FUN WITH CUBBY 2 (£3.50) FUN
(NOT AS00) 7 great gares for kid
SEA SENSE (E3.50) ROCKET MATHS ( $£ 3.50$ TELL THE TIME ( $£ 3.50$ )

## CLR ENCYCLOPEDIAS

he following disk based encyctopedias cover a range of interesting subjects. Using a drawings $\&$ photographs each title is entertaining as well as educational.

DINOSAURS 2 (24.50) DINOSAURS 3 ( 25.50 GEOLOGY ( $£ 4.50)$ SOLAR SYSTEM 1 ( ( 5.50 ) SHESHWATER FISH2NG ( 25.50 )
ECOLOGY (E5.50) ESSERSCHMIT BF109 ( 54.50 )
SPITRRE ( 84.50 ) UP FIRST PONY (Es
BASIC HUMAN ANATOMY ( $£ 3.50$ ) KINGS AND QUEENS ( 84.50 ) HOME INVENTVONS ( $£ 4.50$ ) DISCOVERY OF AMERICA (E3.50)
TITANIC ( $£ 4.50$ )


## OctaMED COMPANION step by step tutorial for OctaMED V5 users $\Sigma 15.99$ <br> ( $\mathbf{( 1 . 0 0 \mathrm { p } \$ \mathrm { p } \text { ) } ) ~}$ <br> )

## AM/FM

disk magazine for the serious Amiga musician Issue 17 out now £2.50
(issues 1 to 16 also available
(issues 1 to 16 also availiabie
send sae for complete list)

## A-GENE V4.38 <br> Latest version of this classic genealogical database program <br> £15.00

## AmiVision Licenceware

FORMULA ONE CHALLENGE V2- $£ 4.99$ Manage your own racing team POWER BASE V2.2-£4.99 Powerful database program POWER PLANNER - £4.99 Personal organiser

| amme |
| :---: |
|  |  |
|  |  |



## TECHNOSOUND SAMPLERS TURBO- £22.50 TURBO 2 - $£ 35.00$ <br> NEW LOW PRICES <br> MEGA MOUSE 400 DPALTTA HUCHRES £14.95 MIDI INTERFACE with £22.5s

Lest version of this famous 8 -channel music editor with new workbench v2.1 files (Note - requires Kickstart 2.04 or later) $£ 30.00$

## P S



## CIR GAMES

TRUCKIN-ON 2 ( $£ 4.50$ )
Run your own trucking Company. DRAGON TLES (E3.50)
 ALL GUNS BLAZING (E3.50)

Puzne cames IMPEAUMM ( (2..50) STELLAR ESCAP Excellan Yenical shoorem-up Excellen Kidy ndeatir zanc
MARVIN THE MARTIA ( 23.50 ) WHITE RABBITS (3.50)
The Logical Choice

## PARNET

1.8 m lead with
P.D. software
£12.50
TOTAL Iscue of the official MED user 22.50

## AM/FM SAMPLES

 quality samples
## £2.50 per disk

(send sae for complete list)
ACC
HARDWARE
PROGRAMMERS
MANUAL
Assembly language tutorial
Disk 1 (PD) $-£ 1.50$
Disk 2 to $4-£ 12.50$

## ACC

HARDWARE PROGRAMMERS

Disk 1 (PD) - $£ 1.50$ Disk 2 to 4 - $£ 12.50$

# SEASOFT 

## AMIGA PUBLIC DOMAIN \& SHAREWARE

PD/SHAREWARE PRICES - PER DISK
(No. of disks shown in brackets)
1 disk - $£ 2.00,2-4$ disks - $£ 1.50,5-9$ disks $-£ 1.25,10-24$ disks $-£ 1.00,25+$ disks - $£ 0.90$ Unless stated all titles work on A500 ( 1 meg ), A500+, A600 \& A1200

| UTILITIES A-BASE (1) | MUSIC GUIDE TO ELECTRONIC | $\underset{\substack{\text { A1200 INTROS (1) }}}{A 1200 \text { ONLY }}$ | OTHER <br> 18TH HOLE GOLF (2) |
| :---: | :---: | :---: | :---: |
| AMIGA FOX V1 (1) | MUSIC (3) <br> re guide (2 dri |  | 242 FAIRLILHT (1) |
| AsTRO 22 V 3 (1) | MED V3.21 () | Assassins fix disk | AGATRON STAR TREX (2) |
|  | me | Bio Mil Chanoib | Amos CRICK |
| MMUUNICATE V1.2 (1) |  | STIC S Sldeshow | Ait masking |
| EASY CALC (1) | MUSIC ENGINE (1) | HOI AGA DEMO 2 (1) |  |
| EASY CALC+ ( POS 2$)$ | NO SAMPLER VOLL 1 (1) |  | CODE MUNGUSV5.1 (1) |
| ENGINEEAS TOOL KIT (1) |  | Noil | DPAINT TUTORIAL |
| FORMS UNLIMTED (1) \& | NO SAMPLER | KRHODES SLIDESHOW | DESERT DREAMS (2) |
| 600 BUSIINESS LETEREA |  | UANGA SLIDESHOW (4) | DONKEY K |
| GNUCHC) COMPIER (3) | Octamed V2 (1) | UAGIC FACTOAY Vo 1 (1) | GAME TAMER v4.5 |
| KıCK 1.3 (1) | OCTAMED V5 DEMO (1) | SUBLL |  |
| KICKSTART $2(1)$ | Ph | Rola invaders | GUSH (1) |
| MAGIC WOAKBENCH (1) | The | mata Dacce invobers zam | JESUS ON E'S (2) |
| menu | AN | Chframem vot | RAGE ALCHEMY (2) |
| MESSY SID 2 (1) | SAMPLES VOL |  | REVELATIONS (1) |
| NCOMM V3(1) | TISAMPLES VOL 3 (1) | PLESS NIGHTS | RETURN TO EARTH |
| North C (2) | TISAM |  | POAD TO HELL (1) |
| NUMPAD (1) | X -BEAT PRO 1.3 (1) |  | foboulioux () |
| PC TASK V2 (1) | осtamed modu | UCHESS (1) | STAR BASE 13 (2) |
| SIID 2(1) | 1) | VIIEWTEK V1.05 | TETRIS PRO( (1) |
| TEXT ENGINE V4. | FRIENDS OF PAULA (4) |  | TOTAL WAR (1) |
| Y-MORPP V2.3.31) | OCTAROCK ${ }^{\text {Of }}$ (1) | Wiou Hacks (1) | WIBBLY WORLD GII |

## JUST SEND E1.00 FOR OUR DEIAILED GATALOGUE DISK

Please add 50p P\&P to P.D./Licenceware only ( $£ 1.50$ Europe, $£ 3.00$ rest of World) or $£ 1.00$ if your order includes other items (Europe \& rest of World at cost)

## Send cheques $p$ ostal orfers 0 o:

## SEASOFT COMPUTING

(Dept AC), The Business Centre, First Floor, 80 Woodlands Avenue,
$\square$

[^5]casserole great purzle game
TIME RIFT ( 23.50 )
CAPTAINK ( 23.50 )
Hish guality platform game
CYBERNET (E3.50)
Space shoot cm
Excellent commercial quality platfors
game. A must for any games collect Game. A must for
Pub quiz machine simulator
CRYSTAL MAZE ( $£ 3.50$ ) Fracman slyle yame RIC IT ( $£ 4.50$

## CLR UTIUITIES

 VIDEOTRLER ( (33.50) TYPING TUTOR (E3.50) Complete course and speedALPHA GRAPH ( $£ 3.50$ ) Comprehensive graphing p Music module linker/player
POWER TEXT 2 ( $£ 3.50$ )
Excellent word process
POWER ACCOUNTS ( $£ 3.50$ ) Keep track of your hank
CALC V1.3 ( $£ 3.50$ )
STOCK CONTROLLER (£3.50) Kecp track of your slock
EPOCH V1 ( 53.50 )
Powerful calendar system
X-STITCH MASTER LITE ( $£ 3.50$ ) HARD DRIVE MENU ( $£ 3.50$ ) A muss for Hard Drive owner
INVOICE MASTER ( $\mathbf{I} 3.50$ ) Create your oun invoices
CREATIVE ADVENTURE TOOLKIT (£3.50) (not A500) FLOW CHARTER (£3.50)

## ASSASSINS <br> GAMES 1 - 150 <br> latest titles always available <br> send sae for complete

ACCESSORIES
(£1.00 P\&P) PYTHON JOYSTICK- 89.99 MOUSE MAT - $£ 2.99$ MOUSE HOLDER - $£ 2.50$
HEAD CLEANING KIT - ¢2.99 MONITOR COVER - E4.99 A500 DUST COVER - 22.99 A600 DUST COVER - E2.99 A1200 DUST COVER - E3.99 PRINTER STAND - E4.99 PRINTER LEAD ( 5 mm ) $-\Sigma 6.99$ 4 PLAYER ADAPTOR - 55.90 JS EXTENDER - $\mathbf{~} 4.99$ MJ SWITCH MANUAL - E9.90 M/J SWITCH AUTO - £12.50 100 DISK LABELS - $£ 1.50$
500 DISK LABELS - 58.00
1000 DISK LABELS - 510.00
DISK BOXES 10 cap- 5125
10 cap - $£ 1.25$
(5 FOR 55.00 )
45 cap - $£ 4.50$ 40 cap $-£ 4.50$
100 cap -85.99 BLANK DISKS
3.5* HIGH QUALITY DISKS WITH (DS/DD - AMHGA etc) $10-\mathrm{Es.00}$
$50-\mathrm{E} 22.50$ 100 - E42.50 (DSHD - PC etc) 10 - 87.00 $50-£ 32.50$
$100-£ 60.00$

It seems that businesses all over the world invest in the Amiga to perform one function or another and the football industry is no different, as Adam Phillips finds out

ideo walls, for those of us in the dark, are those massive screens that dominate large pop concerts and the like. The footballing industry has now decided to jump on to the good idea bandwagon, with Wolverhampton Wanderers FC investing in two Expandaview screens for their Molineux Stadium which are the largest permanent outdoor "video wall" installations in Europe.
Each is virtually the size of a double decker bus, with the intention being that they will offer the most comprehensive tntertainment available at any outdoor stadium.
These are bold claims indeed, so with ynicism well in hand, I travelled down to the home of the Wanderers to find out if seeng really was believing...
The first thing that hits you is the sheer scale of the first Expandaview video wall. Its nearly 30 foot in height and width, with the second one - construction of which Farted in February - being constructed to same dimensions.

Designed and manufactured by $C D$ Thteractive, specialists in multimedia prodacts, the walls are constructed from 256 indiridual 21 in monitors into a $16 \times 16$ frame with a single input lead and increased power cables for the sheer energy needed to ran it.
Each of these monitors can be individudily removed, replaced (useful for when a ingle screen goes on the blink) or arranged Th a variety of combinations from thin horimontal strips to vertical displays, designed to suit your exact requirements.
What actually appears on the screen is displayed created by an Amiga 4000 and Amiga 1200 connected to each other by their


Superbowl allows the user to select an animation from a library of 40 sequences
respective serial ports. Using software developed by Amiga-specialising company Optonica Ltd, the two machines are the electronic heart of the video wall.

As Lee Gibson of Optonica is happy to point out: "The Amiga is very geared towards the video environment... with fast, colour graphics and video-compatible signals."

The software comprises of two programs, Studio VIP and SuperbowL. Studio VIP is a full-blown production and sequencing pre-


The graphics may look like they're out of
the quiz show Catchphrase, but according to
research, they're the most effective for fon participation. In
this example, a player has to be
treated due to injury


The shield spins in 3D rendered animation using the Superbowl software

tures is the set of 40 different animations that can be used at the touch of a key so when a goal is scored, a colourful, smooth anim plays instead of the old hat "Goal!" flashing on and off in bold lettering.

The process of running the video wall starts before a single ball has even been kicked. The A4000, using Studio VIP, produces adverts and match details as the crowd arrives. Once the game is underway, the A4000 flicks over to generate the realtime video images that are being pumped onto the screen at the other end.

The actual images are provided either by two VCRs, containing relevant footage such as Studio VIP sequences, or the six groundlevel cameras placed at various points in the stadium for live coverage. There is also a direct feed from the TV gantry for linking up with television cameras.

In the meantime, the A1200 runs the Superbowl software for the animations and other graphics effects. On top of all this, the PA system can be used by the Amigas too, offering the club a chance to present a full audio-visual experience to its fans.

This all adds up to an impressive piece of modern technology that, at the end of the day, is intended to get more bums on seats and give audiences an experience that'll leave them wanting to come back for more. From where I'm sitting in the terraces, it looks like it'll work as well.

Contacts
Lee Gibson, Optonica Ltd 0455558282 0923212731

# BATYL EA AXE Pubicio 

 Suppliers of Public Domain \& ShareWare throughout the world for years. Over 30,000 customers worldwide. Over 3000 disks, also complete Fred Fish library + TBAG and more|  |  | N7: | Mcoviles 1... Agronericd Dheon, Ait, A Patar, A Bom, Anelorefor, A new gry Toun, Behind fe Wolh ferten. Cacturnd, Catc | $\begin{gathered} \mathrm{Nf} 13: \\ \mathrm{NHf14} \end{gathered}$ |  Unutes 4. Nier Poth 2.19 , Auign Marger v1.02, Chnchnaria v1.9? |
| :---: | :---: | :---: | :---: | :---: | :---: |
| N2 |  | N8: |  | Ni15: | Unutes 5. DOST race 12.10 , inel losde Traitear, the Code ve |
|  | Etelt fort Porand mare | N9. |  | Nilo: |  |
|  |  | NFIO. |  | N17: | MUSK 2 Real Mofrition Hooven, Ow the Moon Donce. Ororge Negetwe |
|  | Devos i... lewhince Deno, Kid Dero |  | MOCuIss fuch fined femy 1 | NF19 | MUSSC 4. Bird, Dent Genetione i, C |
| NF5 |  | N(1): | Mocuess , Feok fineod, tamy | Nr2o | Aet 3. Oldorp, tolyonte od Warup |
| o. |  | Nf12 |  | N+21- |  |
| a. |  |  | Loney, Meswere, Merte Tom | N+22 | Gaves 1... len Tethe, Wober Mon Smepe |



# LOOK AT OUR GREAT PaCKS on The next page 

All disks are Virus Free, Error Free, No quibble replacements

Ordering Info<br>Ordering couldn't be simpler phone us with your order stating disk numbers, or post your order to us. Don't forget to add P\&P per order. Make cheques and postal orders payable to "BATTLEAXE"

## Disk Prices

Disks £1.50

## £1.25 for 10+

All disks are $£ 1.50$ from
BPD, if you order over 10 disks then disks are $£ 1.25$

## Postage

Please add the fol lowing postage on top of your order
£1.00 UK \& CI £1.50 Europe £3.00 ROW


AMFM Samples
These samplo disks are of excellent quality, they are $£ 2.50$ eoch and o,

Sample Disk 1 45 drums \& percussion sounds from a Rolond PCM Sound Car. Sample Disk 2 58 orchesstral winds including flutes, brass, soxes, trumpets, brass chords and ethnic winds

## Sample Disk 3

 30 otmospheric non-instrumental death \& horror sounds. Sample Disk 4 2 selected lead \& bass sounds from the Korg 707 Synthesise Sample Disk 5 os rich, full and dynamic grand piano piano heard on an AmigalSample Disk 6 48 choracleristic samples taken from a Korg Wavestation. Mostly Lead

Sample Disk 7 53 characteristic sounds token yet leod/bass effects.

Somple Disk 8 46 chords sampled from the Korg Wovestation, pads, choirs, syn
Korg M1 drums, 84 drums percussion sounds from the Korg M1 Synthesise All standard drum sounds, with hits, losers, enc.

## Sample Disk 10

 A collection of ambient and hard hilting sounds created on the KorgSample Disk 11 More ambient, hard hitting rave techno sounds, Great stuff. | Sample Disk 12, 13,14, |
| :---: |
| Available alsol!! | AM/FM magazines are also

availoble from BPD. And special disks, look ot AM/FM box.


## Misc/Ufils



## Great Money Saving Packages

16 packs work on all Amiga's
fantostic Clip-Art
of our Clip-Art packs are of very high qual
Both on screen and printed output. Can be
Both on screen and prinied output. Can be
d by all Desklop Publishers \& Aft Packages
come with an installation program which is
proof. Allowing you to install them to both
Pack 1 £9.99
A vat amount of Clips covering Buildings, foods,
Advertising Aids, Aircraf, Humour, Cooper Advertising Aids, Aircraft, Humour, Cooper Srophics, Animals, Birds, Love, Haliday, Giris/
aman, Asserted/Misc, Automobiles and Business Pack $2 £ 9.99$
vaut amount of Great Clips covering Education, Fantany, Plont/Flowers, Old Antique, Medical, Trains, War, Recycling. Sailing and Boaling

Scalable Fonts
t have 400 scalable fonts, split into 4 pack
©9.99 each. That's 100 scalable fonts for
99. they can be used with all DTP's that sup-
ot Adobe Type I Fonts. Please ring if interest-
Pack $1 £ 9.99$
Pack 2 £9.99
Pack $3 \mathbf{£ 9 . 9 9}$
Pack $4 £ 9.99$
We do not have enough room here to show rou all these great looking fonts, which is a
piy, but if you have a fax mochine we will be seighted to fax you a complete sample nowl Ir send you details. Just phone and ask for Strails.

Games Games The best games collection, includes
Arcade, Board Games, Mind Bogoler Arcade, Board Games, Mind Bogglers,
Beat Um Up's, Shoot Em Up's, Beat Um Up's, Shoot Em Up's,
Boulderdash rype, Car, Plane, Education and More. This pock is updated as new sofiware arrives, therefore we can not supply listings of contents heral Phone.
$£ 7.00$
CDUG'S Member'S Benefits

- All members receive Mystery Gift
- Members get great discount on all soffware and hardware
- Members swap shop scheme
- Information on all latest games and hardware
- Monthly newsletter with reviews, charts, gossip and great competitions
- Great bargains you just can not miss
- Win latest hardware and software titles


Forthcoming Titles from C.D.U.G.
青



This illustration shows how the electron guns for each colour are aimed at their particular colowr component of each phosphor triad. Note the Shadowmask screen to allow a degree of accuracy

## CRTs? Cathode ray tubes to you, and if you didn't know that, read on as Wilf Rees reveals the secret world of the monitor



正 types of productivity work - if only to avoid eye strain - is easily understood but most of us assume blank looks when someone starts talking about bandwidths, raster scans, and refresh rates.
Whether we like it or not, this seemingly simple peripheral with its straightforward function has a complexity to match its importance, and as the Amiga has more screen modes than most machines, confusion is easily sown.
However, the technology of the monitor is more simple than we have made it, and can be traced back over a century.

At the heart of the monitor lies the CRT (Cathode Ray Tube) This device consists of a sealed glass chamber, containing a vacuum. In 1870, Sir William Crookes investigated electrical discharges down
highly evacuated tubes (called Crookes tubes).
This electrical discharge was named the cathode ray, as it was emitted from the cathode. In actual fact, it is a stream of electrons being accelerated to a third of the speed of light. This research later gave way to the development of the cathode ray tube.

Early cathode ray tubes were able to produce an image of a

Maltese cross on the screen, as this served as an anode. The electrons would be accelerated due to the massive electrical potential difference, which is about 30,000 volts.

They would strike the screen, which was covered in a layer of phosphor, and have their kinetic energy converted into visible light. Naturally, particles as light as electrons would be deflected and the beam would dissipate if they collided

## Commodore 1940/1942

Designed with the A1200 and A4000 range in mind, the 1940 and 1942 monitors are in fact tri-sync monitors. In appearance, they are very similar to the 1084st monitor and have the bonus of having a stereo amplifier, which is an improvement on the 1084st.

Both 1940 and 1942 are identical with the exception of the 1940 having a dot pitch of 0.39 mm and the $1942,0.28 \mathrm{~mm}$. Picture quality on the 1940 is little better than the 1084st, and on the 1942 model, it is excellent. All the controls are at the front of this monitor, which makes it easier to operate. Both monitors function suitably with the AGA chipset.
with much more massive air molecules air evacuation inside the CRT required.
It was later discovered that magnets affected the flow of electrons (if you ever placed a magnet over a TV screen will know, but do not try this!) By arrangement of electromagnets it is pos ble to deflect the electrons in the incisi beam in a convergent manner, so tha can be focused to a point.

## PHOSPHOR

The entire beam can be shifted by arrangement of $X$ and $Y$ plates, whe deflect the beam in their axes resp tively. The ability to create a point on phosphor screen that could be mot gave way to the invention of the cathe ray oscilloscope.

The strength of the magnetic field or the $X$ and $Y$ plates is proportional to total deflection. Using this apparatus possible to display a graphical repres tation of a waveform, with the X pla set to a pre-defined frequency of defi tion. Considering it is possible to vary

## The RGB colour monitor

The monitor works in a similar way to a television in that the image is formed by a beam of electrons which strike a phosphorescent screen which then emits visible light. In a colour monitor beams are fired from three electron guns, one for each of the primary colours. Any desired colour can be diplayed by combinations of these colours, varying the intensity of the electron beams enables the desired hues to be achieved.
To form a picture on the screen a dot scans rapidly across the screen in a series of lines called a raster, the dot varies in intensity and colour as it moves, building up the picture. The phosphor on the screen continues to glow briefly after the dot has left it, a phenomenon called persistence, which fools the human eye into seeng a complete picture on the screen rather than just a moving dot. Once the dot has reached the bottom of the screen it flashes back to the top and starts scanning across again. The dot scans across the whole screen about 60 times a second.

The electron beam passes through holes in a metal plate called a thadow mask which keeps the beams perfectly aligned on the ight place on the screen. The Sistance between the holes in this sate is called the dot pitch. The imaller the dot pitch the closer the holes are together and the sharper the picture on the screen.


Monitors based on the Sony Trinitron cathode ray tube have show masks in which the holes are arranged as parallel slots. This gives a better image.

Intensity of the beam at any point, this meant that it was feasible to re-produce a Ficture, by moving the beam across the screen, going down one line on each pass, altering the intensity at various points to create dark and light areas.

If this process was performed fast mough, a still picture would be possible. The human eye compensates for the
stages in-between, and in addition, a factor called phosphor decay determines the length of time the phosphor in any area will continue to emit light after an area is struck by the electron beam.

There are many variables to the way a picture is created - for instance, the frequency at which the horizontal beam crosses the screen, or makes a scan line,

## Configuring screen settings

is called the scan rate. The number of scan lines down a screen determines the vertical refresh rate, which like horizontal rate, is measured as a frequency, in Hertz or Hz.

There are two main ways which the electron beam can write a picture on a computer-based display. The first of these is standard vector scanning. This involves swinging the electron beam continuously from left to right while shifting vertically, one step at a time in synchronisation with the horizontal movement.

## VECTOR

The other method is called interlaced vector scanning. This is used for older monitors to enable high resolutions, as the input signal CPUs cannot handle higher rates of video information.

Effectively, this method halves the frame rate, reducing CPU usage. It involves scanning every second scanline in two passes, one odd set and one even.

## Setting up your monitor

Since there is no advantage in using a multiscan monitor with Workbenches earlier than v2.0 (unless you own a flicker fixer) this section will be covering $2 . x$ and upwards.

## Workbench 2.04

With this version of Workbench, you will find a drawer on your extras disk called "MonitorStore" containing files to control various types of monitors.

Among these you will find multiscan, A2024, NTSC and PAL. For users of multisync monitors, you will need to drag the Multiscan and PAL icons over to the monitors drawer of your workbench disk.

## Workbench 2.1+3.0

Simply drag the appropriate monitor icons, perhaps DBLPAL, Multiscan, Super72 (or whatever you want) from the monitors drawer on the storage disk to the devs:monitors drawer on your Workbench disk (or hard disk)

## Types of monitor

PAL monitors These monitors are capable of producing pictures from standard PAL signals, which for an Amiga output is 512 scan lines, with a horizontal frequency (or rate) of 15.625 kHz . This produces 640 pixels across by 512 down. These monitors usually are capable of reproducing pictures from composite video sources.
multiscan/multisyncs Multiscan monitors (often known as multisyncs, a trademark of NEC) are able to work with many different horizontal and vertical refresh rates, as they will scan within their frequency limits until they manage to lock on to a signal.

Most Multiscan monitors can easily be used with Amigas. Some more modern multiscan monitors incorporate DMS (Digital Memory Sizing) which automatically resizes the screen to cope with extended video features such as overscan etc.

Without this feature, it is necessary to adjust the picture sizing and position with the controls available. Multiscan monitors are generally the most expensive of all types of monitors.

You should expect to pay more for DMS. When buying a multisync monitor, make sure it is able to scan down to horizontal frequencies of at least 15 kHz , for the Amiga's PAL and NTSC modes.
dual/tri/quadsyncs These monitors are similar to multiscan monitors with the exception that they work with two, three or four preset frequencies, depending on the model. They are normally cheaper that multisyncs. Quad and trisyncs are often badged as multisyncs, so be careful what you buy.

TV monitors Although these are really a type of monitor, they normally have the same capabilities as a PAL monitor with the exception of not having any controls to adjust the size and position of the picture. Although the quality is not normally as good as a PAL monitor, it is compensated by the bonus of doubling-up as a TV set.

This method is sufficient to give an illusion of a continuous picture. Interlacing is always used on television signals. White light can be made up of three primary colours, red green and blue, often referred to as RGB. Any values of red, green and blue can be combined to produce a specific colour.

Unlike mono monitors which have only one electron gun, colour monitors have three, one for each primary colour. The effect of colour is created by different coloured Phosphor dots placed on the screen, which emit light to their particular colour when bombarded with electrons.

The phosphors are arranged as a large number of triads, with each triad containing three different dots or stripes of phos-

phor. The idea is that one gun only shoots electrons at the red phosphor, while the other two fire at their respective coloured dots. To prevent a gun firing at the


This diagram show the general layout of a cathode ray tube similar to that usually found inside an oscilloscope
wrong dot, a metal grill called the shadowmask is placed inside the tube just in front of the screen. The perforation and positioning of the shadow mask have to be done with great accuracy.

As explained earlier, the screen image is made up of triads of three colours, that appear as small dots (or pixels) on a picture. Basically, the smaller the pixels, the higher the resolution.

Colour monitors have vastly inferior resolution to mono monitors, due to the fact there is no need for a shadowmask, so resolution is not defined by grating size of the shadowmask. The circuitry inside the monitor also determines the resolution obtainable. Faster monitor CPUs can handle higher rates of information therefore allowing greater resolutions. You will generally find that the higher resolution a monitor is capable of, the higher the price.


## Jargon buster

composite video A signal for pictur transfer often used by video player and cameras. Commodore 1084s an Philips CM8833 monitors all allow the input.

RGB An abbreviation for red, gree and blue. the primary colours of ligh Colour TV and monitor pictures art made up from these components.

PAL The television standard for the LV and Amiga computers. This is based upon a horizontal frequency 15.625 kHz and a vertical refresh rate d 50 Hz .

NTSC Stands for North Americas Television Standards Council. The tele vision standard of America, which of fers from PAL with a vertical refrest rate of 60 Hz .

AGA Advanced Graphics Architecturt The new chipset from Commodore which handles graphics and screet modes.

## Commodore 1084st

This PAL monitor has undergone many design alterations since its release although it is not suitable for use with the A1200 and A4000's extended screet modes.

It provides a good picture, with a dat pitch of 0.41 mm , although the colours dis played seem very slightly muted. The five watts per channel stereo amplifier provides reasonable sound, although at full volume is prone to distortion.

## Microvitec 1440 multisync

This monitor is in fact a true multisync meaning that it does not have any predetermined frequencies from which to scan, The 1440 can cope with horizontal frequencies from 15 to 40 kHz which covers all of the Amigas AGA outputs.

A dot pitch of 0.29 mm means that the picture is crisp and very little colour saturation occurs. DMS is included with this monitor, which is very useful for Amiga output when overscan is needed.

This means that there is no need to resize the screen because the picture exceeds the physical dimension of the monitor. The monitor will remember your settings for each screen mode and activates the appropriate preference settings accordingly.

Designed to bring you high quality and performance at affordable prices, AmiTek peripherals offer outstanding value-formoney. They are built to ensure easy fitting, and trouble free operation - making them a pleasure to use. AmiTek products
are also thoroughly tested and very reliable, so reliable that we are pleased to offer a full two year warranty on the AmiTek products detailed here.

ALL AMIGA SYSTEMS



- Plugs straight into A1200 trapdoor - No soldering required - Upgradeable FAST RAM board to 1, 2, 4 or 8 mb - Uses industry standard socketed SIMMs for easy upgrades - Three types of optional Floating Point Unit
$20 \mathrm{mHz}, 33 \mathrm{mHz}$ or 40 miz PLCC 68882 co-processor
Comprehensive easy to follow manual with illustration - Comprehensive easy to follow manual with illustrations - Works with all A1200 and A1200HD computers - Does not invalidate your A1200 warranty


## 40 敝

|  | £99 | £149 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 2 刮 | $\Sigma 129$ |  | $£ 199$ |  |
| 4 him | $\Sigma 199$ | $£ 249$ |  | £299 |
| 8 \% | $£ 399$ |  |  | £499 |



1 Mb INTERNAL FOR AMIGA 500/500pLuS



[^6]MAIL ORDER: $1-4$ The Mews, Hatheriey Rd. Sidcoup, Kent, DA14 4DX Tel 081-309 1111 CROYDON SHOP: Debenhams (20t foot), $11-31$ North End. Croydon, Surrey, CR9 1RO TeL: 081-688 4455 LONDON SHOP: $\qquad$
LONDON SHOP: $\qquad$ SIDCUP SHOP: 1-4 The Mews, Hatheriey Pdd. Sidcup, Kent, DA14 4DX Tel: 081-302 8811 ESSEX SHOP: Keddies (2eef Fleol, High Street, Southend-an-Sea, Essex, SS1 1LA Tel: 0702468039 IPSWICH SHOP: $\qquad$ Tel: 0473287092

To. Silica Systom AMCOM. 0394 -125, 14 Tha Mens PLEASE SEND A 64 PAGE AMIGA COLOUR CATALOGUE
Mr/Mrs/Miss/Ms: $\qquad$ Surname:
Company Name (if applicable)
Address:
| Tel. (Home)
Tel. (Work):

# OPEN ALL HOURS WELL, NEARLY! Gam-10pm Mon-Sat 10am-6pm Sunday 

## SPGGAL OFFansH <br> LOOK! LOOK! LOOK! <br> DSDD DISKS 100 DISKS + 100 CAP BOX <br> 29p £31.99

Ask for "Special Disk Offer" when ordering

## 2.5" HARD DRIVES FOR A600 / A1200

| 40 MEG | $£ 119$ |
| :--- | ---: |
| 80 MEG | $£ 189$ |
| 120 MEG | $£ 209$ |
| 250 MEG | $£ 259$ |
| 340 MEG | $£ 309$ |
| Including lead, fixing screws $\&$ instructions |  |

PRINTERS \& RIBBONS

| Star LC20. | £133.00 |
| :---: | :---: |
| Star LC100 Colour | . 8159.00 |
| Star LC200 Colour | . $£ 194.00$ |
| Seikosha SP 19009 Pin Mono | \&119.00 |
| Seikosha SL95 24 Pin Col | .8189.95 |
| Star LC24-30 + Auto Sheet Feeder | ¢229.95 |
| Star LC24-200 Colour | . 2274.00 |
| LC20/100 mono ribbon | £4.50 |
| LC100 colour ribbon. | ¢6.75 |
| LC24 200 mono ribbon | £5.50 |
| LC24 200 colour ribbon. | £13.50 |
| L.C200 mono ribbon. | 84.50 |
| C200 colour ribbon. | ¢9.75 |

## LEADS \& CABLES

| Printer. Serial |  |
| :---: | :---: |
|  |  |
| uil Modem ........................ $£ 5$ |  |
|  |  |
| Joystick Extenaer 3 metre .......83.99 |  |
| Amiga to SCART |  |
| , |  |
| Analog Joystick Adapter |  |
| alog |  |

## LOOK! LOOK! LOOK!

TRACTORFEED DISK LABELS
Now you can print your own professional disk labels! 500 Plain white disk labels on tractor feed, complete with FOUR disks of software and artwork.

Yours for ONLY $£ 9.95$
1000 Labels with software ONLY £13.50

## AMIGA HARDWARE

A1200 Race and Chase Pack .£289.95 A1200 Desktop Dynamite .... 8329.95 CD32 + Oscar / Diggers ......£289.95 A $4000-030-2 \mathrm{MB}$ Ram 170 Mb

Hard drive
2999.95

1084 S Monitor
£174.95
Cubscan 1440 Multisync ..... $£ 399.95$ External Floppy + Virus Killer $£ 56.95$ A500 Internal Floppy Drive $\quad .948 .95$ A500 512K Ram Exp. + Clock ... 223.50 A500 1.5 Meg Ram Exp. ........ 876.95 A500+ 1 Meg Ram Exp. ........ $£ 33.95$ A1200 2 Meg Ram Exp +Cloek ct29.95 A500 Power Supply
.E29.95

## DISKS \& LABELS

All disks are supplied with labels UNBRANDED DISKS are $100 \%$ error free
In the unlikely event that any of our disks are faulty, then we will replace the disks AND reimburse your return postage!
$3.5^{\prime \prime}$ DSDD Grade A.........£0.37 each
$3.5^{\prime \prime}$ DSDD Grade B
£0. 29 each
$3.5^{\circ}$ Rainbow.
. 80.44 each
$3.5^{\prime \prime}$ DSHD
80. 58 each
$3.5^{\prime \prime}$ DSDD Fuil (box of 10) ...... $£ 4.90$
$3.5^{\prime \prime}$ DSHD Fuji (box of 10) ...... £8.90
5.25 DSDD Fuil (box of 10) .... 22.50
5.25" DSHD Fuji (box of 10) ... $£ 4.90$
$10003.5^{\text {" }}$ labels.
£6.50
1000 3.5" tractorfeed ............58.50

## STORAGE BOXES

| Most types are available for $3.55^{\circ}$ or $5.25^{\circ}$ disks. |  |
| :---: | :---: |
| 10 capacity | £0.95 |
| 20 capacity | £1.95 |
| 40 capacity | £3.49 |
| 50 capacity | $£ 3.95$ |
| 100 capacity | £4.50 |
| 80 capacity Banx drawer | £8.49 |
| 50 capacity Posso drawer | £15.95 |
| 200 capacity drawer | £14.95 |



## MISCELLANEOUS

| Mousehouse. <br> Mousemat 9mm thick <br> Diskdrive cleaner. <br> A500 Dustcover <br> A600 Dustcover <br> A1200 Dustcover <br> Monitor Dustcover <br> LC20 Dustcover <br> LC100 Dustcover <br> LC200. Dustcover <br> LC24-200 Dustcover <br> Roboshift <br> Amiga Lightpen <br> Optical Mouse <br> Manhattan Mouse <br> Megamouse II <br> Megamouse 400 DPI <br> Alfadata Trackball <br> Crystal Trackball <br> Zydek Trackball <br> Zyfi Amp/Speakers. <br> Action Replay Mk III <br> Midi Master. <br> Tilt'Turn Monitor Stand. <br> 2-piece Printer Stand <br> Metal Printer Stand <br> A4 Copyholder <br> Metal Angle Poise Copy Holder. <br> A500/A600 ROM Sharer <br> V1.3ROM <br> Micropert Tractorteed Paper 500 sheets |  |
| :---: | :---: |

## JOYSTICKS

All joysticks have autofire feature
except those marked
Trigger Grip Models

Quickshot turbo.
Dyihon 1 M
Jetfighter
. $£ 6.95$ . $£ 7.99$ £12.00
Topstar. \&19.50
Intruder........................
Base Fire Button Models
Maverick 1M.
Megastar
Zipstick
Comp Pro $5000^{\circ}$
Comp Pro Extra.
Comp Pro Star
Crilser Multicolour
Advanced Gravis Black Advanced Gravis Clear Comp Pro Star MINI. Aviator 1 Flightyoke. Handheld Models
Speedking
Navigator. $£ 21.50$

## $£ 12.95$

| $£ 12.95$ |
| :---: |
| $£ 21.50$ | $£ 21.50$

Y 1295 $\begin{array}{r}\mathrm{E} 12.95 \\ \mathrm{~F} 10.95 \\ \hline\end{array}$ \&10.95 £12.95 £12.95 . 89.95 £24.99 \&27.99 827.99 £14.95
£23.50 Navigator £10.50 £13.95 Bug.

## ANALOG JOYSTICKS

These Joysticks will fit any Amiga
Warrior 5 .
.£14.95
Saitek Megagrip 3........................ $£ 19.50$
Speedking Analog ................... $£ 13.95$
Intruder 5 £25.50
Aviator 5 Flightyoke £27.50
Adaptor to use any PC analog joystick
on an Amiga.
ONLY £4.99

As one of the first people to buy an A1200 almost a year ago, I find I am still waiting for the promised CD-ROM add-on - drive to give my machine the same capabilities as the CD32 console.

Can you give Commodore a kick up the backside on behalf of all the users, such as myself, who put their faith in this sick and, seemingly, terminally ill company?
Like many others, I was foolish enough to believe the hype put out by various software companies concerning the release dates of A1200 and CD32-only titles which would take advantage of my Amiga's superior power, but apart from the efforts of a few stalwarts of the Amiga Ine, I have been let down. Why haven't they (the get-rich-quick software houses) delivad the goods?
I now find that the AAA chip set is on the horizon, and due for release later this year. that mean that my A1200 will go the same way as the A500, A500 Plus, and A600? I d to know now before the second-hand value of my machine drops too much.

Callum Hastings, Dumbarton

- daur, how many letters such as this will we receive? The A1200 is the standand Amiga these and will contimue to be for a long time to come.
Commodore have dropped all PC production to concentrate on the Amiga, and the A1200 in par$\rightarrow$ hus sold very well this Christmas.
Syftuare companies have indeed been slower to react to the A1200 than the we were originally
Iob believe, and their tardiness in keeping to release schedules is a constant source of concern. wever, the situation is changing rapidly.
The talest releases to reach the AC office, Jurassic Park and Labyrinth among them, are at least raull of PC CD-ROM games and much better than anything the Mega CD can basst. Take a at our review if you doubt this, and sit back for a treat in 1994.
Many of us have gone ga-ga over the possibilities of the CD medium and the stereo CD-quality $t$ it offers, but it's not until you actully play one of the new CD32 releases that you realise Thw much better the gaming experience can be when you have 600 Mb of storage space.
On a less bright note, the CD32-compatible drive for the A1200 is being held up because -rodore can't get the price much below $£ 300$ and because the company is concentrating most of -uris on making and selling Amigas and CD32s. Whether the device will appear at all this year pods entirely on Commodore and the demands of A1200 owners.


## Cood service

Iave read and heard on several occaNons the bother Amiga users have arperienced when contacting cammodore for assistance when gremlas attack their machines, and I always loped Id never have to contact them Eyell. My A1200 is six months old now nad I was experiencing difficulties with frior messages from the floppy drive no nerer what type of disk I used.

With trepidation I rang up cammodore only to be asked if I was a thaler. I said no but requested assisfere under warranty and explained whittly that there was no point in talking to a dealer who would simply ring Commodore as I was doing.

I laft my name and address and was I I would be contacted, though they ceuldn't give me an exact date. I also seruested a new Workbench 3.0 floppy.

That call was made on November 1 mal though I'd give them until January en a reasonable amount of time had nassed. On December 6 a Wang engiwar called and immediately set about arelecing the internal drive. Not only did
he change the drive, but proceeded to open a brand new ROM board and replace my old one. Next day my replacement Workbench disk arrived.

I am personally more than happy with my service from Commodore. Nothing was too much trouble for the engineer from Glasgow.

I found Commodore quite easy to deal with and I hope you can print this letter so other readers can see that there is light at the end of the tunnel.

M Diamond, Edinburgh
To every coin there are two sides, and it looks as if yours landed heads up. Commodore realised early in the A1200's life that speed and quality of service was attracting continued criticism from users and the Amiga press, and efforts were made to rectify the problem.

The result, as you have witnessed, is that after sales service is now much improved. Just goes to shown what a concerted campaign of good ol' British whinging can achieve.

## Not a bundile of fun

I am seriously pissed off, having been very effectively ripped off by a combination of Commodore and high street retailers. The reason? Well, it's a long story, but here goes.
I recently decided to sell my trusty A500 Plus and use the money with a bit extra to upgrade as cheaply as possible to a brand spanking new A1200. Now, I have been a loyal Amigan since 1989, starting with the bog standard A500, and during this time have built up a reasonable collection of my favourite software.

I have grown accustomed to the likes of DPaint 4, Final Copy, Directory Opus, and I would grudgingly confess to enjoying the occasional game. I decided to keep this software to use with my new Amiga, so in short I wanted an A1200 without software.

I didn't want or need Desktop Dynamite, Fast and Furious, Race and Chase, or any other sort of bundle. Ever tried to buy a bare Amiga in the high street? No chance. It's a bundle or nothing.

After touring round all the likely stores in the area I came to the conclusion that my chances of obtaining a standalone A1200 were very slim to say the least.

I eventually had to settle for the Fast and Furious pack, complete with AGA versions of dodgy games like Trolls and Nigel Mansell, and at a price of nearly $£ 50$ more than the advertised price of an A1200.

Mail order might have got me a better deal, but it was close to Christmas and I get nervous when I send large wads of cash before receiving the goods.

My bundled games are, as expected, $£ 50$ worth of utter crap, destined to spend the rest of their days in some dark drawer, but it has to be said that the A1200 is absolutely superb. It's everything, and more, that I expected.

So, all you high street stores out there, please keep a stock of standalone A1200s for people like myself who are upgrading from another Amiga.

Ken Fidoe, Willenhall
Commodore have always bundled the Amiga with games and some productivity software as a way of competing in our high streets against

## Amiga saboteur

Can Amigas be made to simulate the cry of a female fox? If so, could I lure the local fox population into the fastness of my back garden before hunting season starts and they're ripped to pieces by slavering mongrels, not to mention the fox hounds?

The nature-friendly among us want to know!

Joe "the sab", Surrey

Hmm - you'd certainly be safer using such methods than jumping in front of galloping horses, but it is unlikely that a fox would be fooled for long by an Amiga sound sample.

Perhaps if you bought a (fake, of course) fur stole and wrapped your Amiga in it the illusion might last a little longer, though I doubt if it would work for the entire hunting season.
other systems, such as Mega $C D$, which are sold with their own software.

It is this sort of aggressive marketing which ensures success against the many rival consoles and PC systems, and without it A1200 sales would have been hit hard during Commodore's most important Christmas for many years.

Commodore's current financial situation can only reversed by high volume sales of the A4000, A1200, and CD32, mostly the latter two, and only by bundling popular games and productivity software can such sales be assured.

High street stores, on the other hand, can

## Lost cause

Commodore lost a life-long Amiga user yesterday, someone who has owned a Vic 20, Commodore 64. A500, and A1200, but who will no longer tolerate the conditions of the Amiga games market. I sold my A1200 when I realised that even the latest epic, Jurassic Park won't install on my hard drive.
Why is it that Amiga owners are judged to be inherently more avaricious and dishonest than their PC-owning friends? This can be the only rationale behind a game which is HD installable on the PC but not on the Amiga.

Is the software industry staffed entirely by morons with no thought in their heads other than the collection and retention of profit, with scant regard for the wishes or service of their customers? I'm beginning to think so.

Anyway, they can stuft their archaic floppy-only games with crunching copy protection which doesn't work, slow access, and crap music.
I'm buying either a CD-ROM based PC or a CD32 for my future gaming, and the floppy-based mainstream Amiga sottware houses can stick their second rate, unfriendly products where the sun definitely does not shine.

## End-ot-my-tether, Clitheroe

Your frustration as a hard drive owner (or ex-owner, as it appears) are shared by thousands of Amiga gamers and everyone in the AC offices, where the arrival of a floppy-only game of the sort which cries out for a hard drive elicits howls of anger, especially with the game reviewers who are forced to undergo the torture of multiple disk swapping.

Sottware houses should by now have realised that any game other than simple single floppy. quick loading shoot-em-ups must be hard drive installable, and if they are not then they are immediately compromised in terms of playability.

Amiga 1200 owners, a growing number of whom have internal IDE HDs, should simply refuse to buy non-installable games until the software houses are forced by commercial pressures to change their stance.

Only if Amiga owners, like PC game players, make it clear that floppy-based games are unpopular will anything change for the better.
only sell what Commodore supply, and the emphasis this Christmas has been on bundles.
Standalone Amigas should, though, be available, and if anyone else is having difficulty finding one, I suggest you call ZCL on 0543414817 or SDL on 081-309 1111. These two large Commodore distributors have every model in stock, and if they can't sell you a bare A1200 then no-one else can.

## Blank cheque

I've had an idea which might help sort out the problems with mail order, and would certainly make more people use mail order when buying expensive equipment.

At the moment, sending a cheque or phoning with your credit card number in no way guarantees delivery of the goods on time or at all, and the money can often be gone from your bank account weeks or months before the kit is delivered, if it ever is.
My scheme would involve a private company, under government watchdogs, which would act as a central mail order clearing house, taking orders from customers using an 0800 number, passing them on to the companies which use its services, then arranging the delivery and payment so that both customer and salesman get what they want on time.

By charging a small percentage to cover running costs and make a tidy profit, this sort of service would encourage the more cynical or nervous of us to use mail order, and those who wanted to go for the cheaper prices of the smaller outfits at the risk of late or nondelivery could still have the opportunity to take their chances and save a little more cash.

Your idea sounds like a good one, but the company you envisage would have to offer the mail order companies some sort of advantage over traditional direct selling.

If the rise in consumer confidence did not result in enough sales through your clearing house the mail order outfits would return to their usual methods and the clearing house would go bust.

Only if there is a potential market of people who are normally put off mail order by the risks involved would the scheme succeed, and that's a matter for careful commercial market research.

If the market exists, however, someone somewhere could make a nice little earning from this middle man-cum-policeman role.

## Strong market

A friend of mine who has just bought an Amiga recently saw to her alarm a discussion in one of the Amiga magazines of Commodore's troubles and of the threat to the Amiga market. She now feels she may have spent $£ 300$ on a dying machine and I have to reassure her.

What can I tell her?
Peter Stepley, Warrington
Just tell your friend to take a trip down to WH Smiths one Saturday and observe the crowds of people at the magazine racks

Ian Belmont, Carlisle Got people at the magazine racks
perusing the wide range of
something to say
through the pages of AC?
Ezra Surf is our mailman,
dedicated to reading your letters and selecting the most interesting for publication. Drop him a line at:

Ezra Surf's Postbag , Amiga Computing Adlington Park, Macclesfield SK10 4NP

Please don't enclose saes as Ezra just hasn't got enough paper to reply personally. He might also have to shorten your letters, so don't be offended if you end up getting the chop. Amiga magazines on offer. Every month, over 400,000 Amiga magazines are sold, which points to an active Amiga audience of at least half a million and more like the full million.
Taken with the rising sales of Amigas and Amiga magazines, this points to a healthy market which, though it no longer enjoys the position of being the unchallenged king of the games world, is surviving quite nicely amid intense competition.
We could talk all day about the relative technological merits of the Amiga, but the simple fact is that hundreds of thousands of users are still making the Amiga their number one choice, and this should be enough, without invoking Occam's razor, to combat tworries that the Amiga is going downitl.

The software industry, though considerably less practised than Gallup or Mori in the business of prediction, have made gloomy noises about the Amiga in recent months, but we only have to cast our minds back to the 92 general

A4000 v 486
I would just like to make a point abo the price of the A4000/030, as I a currently considering whether or not purchase one of these fine machine or go for a PC.

I own an A500 at the mome which is a bit temperamental and don't know if it will crash before after I have saved this letter to disk, I think it's time to upgrade.

The best price I have seen for A4000/030 is $£ 1,099$ with 1 Mb each chip and fast RAM, and a 340 Mb har drive, but no monitor.

For the same price I could go for 48625 MHz with 4 Mb RAM, $16-b$ Soundblaster card, CD-ROM, 120NE hard drive, and SVGA colour monitor

I think that Commodore shoult include a monitor with their A4000/03 at the same price and I'm sure would do better.

Paul Roberts, Cleethorper

The only reply I can give is "ditto".
election to put such predictions in the pror perspective.

If the experts of decondes of polling and mix research can fail so miserably to predict results of such an important event, can we the toy business to achieve a better strike rate

## Messy printer

Of late, my BJ10 bubblejet printer started to fudge the detail on anythis print out, and though barely noticeable first, the downturn in quality has beco pronounced.

Is there a software setting which wo restore my output to its former glory, o this, as I fear, a hardware fault?

Jenny Spencer, Stoke-on-T

You could have a problem with print dens which should be set to the highest dpi settra and can be controlled using prefs or 11 Faust's excellent CanonStudio program.

This, however, is a very slim hope, an sounds as if you have problems with the head itself. If no amount of software fid makes a difference, contact your local C dealer for advice and repairs.

## Indi solution

Here's the solution to Bill Mackintosh's problem running games such as Indiana Jones on larger hard drives. I have an A1200 with a 170 Mb Western Digital and the game wouldn't work on my hard drive in the same way Bill was finding problems.

The problem, I discovered, was that the Amiga often writes files to disk too quickly, including large graphics and anim files, leaving the file corrupt. I finally got Indie to work by copying the files from all 11 disks to my HD using Directory Opus.

To solve the speed problem, use a program called GVP Expert Prep or a similar hard drive set-up program to change the Max Transfer parameter until it reads $0 \times 00001 \mathrm{fff}$ (decimal 8192 ) for all your partitions. This will slow transfer down so that files over 300k in size will be written to disk correctly.

After changing the transfer rate, save the rigid disk block
(which won't require formatting the HD), then just re-boot the Amiga. The above method doesn't slow down the seek or readin' speed of the drive, just the writing rate.

Jay Dave, Prestor
Thanks for the tip, Jay. Users out there who don't have access $t$ GVP's excellent (but commercial) prepping software should be able to find ample PD SCSI editors and HD toolbox programs make the job possible.

Keep in mind, though, that a full backup of data on your parntions should be made before messing around with hard drives in this way. If a mistake or a calamity leads to the corruption of a pat tition, you will then at least have a fall-back rather than a good excuse for throwing yourself out the window.

## DIGITAL BRDADCASTER 32

From Digital Micronics

## TRUE BROADCAST QUALITY, FULL SCREEN, REAL-TIME, NON-LINEAR, ON-LINE VIDEO EDITING SYSTEM

ELIMINATE FRAME BY FRAME RECORDING ROTOSCOPING
TIME LAPSE VIDEO STOP MOTION VIDEO ASSEMBLE \& PLAYBACK AT 25 FPS GENERATE EDL'S FOR OFFLINE WORK COMBINE GRAPHICS \& VIDEO FULL MOTION JPEG TECHNOLOGY INCLUDE VIDEO IN YOUR ANIMATIONS INCLUDE ANIMATIONS IN YOUR VIDEOS SMPTE TIME CODE READ \& WRITE $786 \times 586$ DIGITAL RESOLUTION DIRECT 4:2:4 DIGITAL VIDEO BUS (CCIR601) INTERFACES WITH AD516 / STUDIO 16

# AD516 / STUDID 16 

From Sunrize Industries
8 TRACK, 16 -BIT, CD QUALITY, DIGITAL RECORDING SYSTEM
RECORD \& PLAYBACK SIMULTANEOUSLY
64 TIMES OVERSAMPLING MULTI-TASKING
SAMPLE RATES UP TO 48 KHz
$15 \mathrm{~Hz}-22 \mathrm{KHz}$ Response
REAL - TIME EFFECTS
SMPTE TIME CODE SUPPORT
INTERFACES WITH DIGITAL BROADCASTER 32 COMBINES WITH BARS \& PIPES PROFESSIONAL 2
PLEASE SEE FOLLOWING DOUBLE PAGE ADVERT FOR FURTHER INFORMATION ON THESE AND MANY OTHER PROFESSIONAL AMIGA PRODUCTS.

## White Knight Technology <br> 0992-714539

# White Knight Technolo AMIGA Specialists Fax 10am－7pm Monday－Friday 

Cank Na Smikh
or Via Deka

## A500／ 1500 ／ $200 \square$ ACLELERATORS

CSA DERRINGER 25 MHz 68030 \＆MMU，WITH OMb 32－BIT RAM
£ 299
CSA DERRINGER－PLATINUM 50 50 MHz 68030 （optional 50 MHz 68882 ） WITH OMb 32－BIT RAM
£ 449

## A1500／ 2000 ACLELERATORS

GVP G－FORCE $33 \mathrm{MHz} 68040+4 \mathrm{MB}+$ Serial，Parallel \＆SCSI Ports £ 999 GVP G－FORCE $40 \mathrm{MHz} 68 \mathrm{EC} 030+$ 4MB，＋SCSI Port
£ 589 CSA MAGNUM 28 MHz 68040， 0 MB \＆ SCSI－2（Optional Serial \＆Parallel）£ 849 CSA MAGNUM $33 \mathrm{MHz} 68040,0 \mathrm{MB}$ \＆ SCSI－2（Optional Serial \＆Parallel）£ 999

## A120ロ ACLELERATORS

GVP A1230 II， 40 MHz EC030，Opt．FPU WITH OMB 32－Bit RAM
£ 245
4MB 32－Bit RAM £439
$4 \mathrm{MB} \mathrm{RAM}+40 \mathrm{MHz} 68882 \quad £ 565$
GVP A1230 II，50MHz 030，Optional FPU
WITH OMB 32－Bit RAM
£ 375
4MB 32－Bit RAM £ 575
4 MB RAM +50 MHz 68882
£ 719
MICROBOTICS M1230XA
WITH 25 MHz 68030 \＆MMU，OMB £225 33 MHz 68030 \＆MMU，OMB £249 50 MHz 68030 \＆MMU，OMB £319

## MEMDRY

32MB SIMM－ 32 £ 1750 16MB SIMM－32 £800 8MB SIMM－ $32 £ 350$ 4MB SIMM－ $32 £ 160$ 2MB SIMM－32 £ 85 1MB SIMM－32 £ 45 1MB SIMM－8 £ 45 4MB SIMM－8 £165 GVP SIMM－ 32 ＇s 1Mb £ 79，4MB £195

[^7]
## ALL PRICES INCLUDE VAT

## AMIGA $400 \square$

A4000／030，6MB RAM， 80 MRES $£ 1234$ A4000／030，6MB RAM 1 Re MMB £1285 A4000／030，6MR BAMC， $210 \mathrm{MB}^{*} £ 1335$ A4000／038 日月 B RAM， $250 \mathrm{MB}^{*}$ £1365 A4000／E30，6MB RAM， $340 \mathrm{MB}^{*} £ 1445$ A $4000 / 030$ ，6MB RAM， 420 MB＊$^{*} £ 1575$ A4000／040，6MB RAM， 80 MB £1899 A4000／040，6MB RAM， 120 MB £1949 A4000／040，6MB RAM， 210 MB＊$^{*}$ £1999 A4000／040， 6 MB RAM， $250 \mathrm{MB}^{*} £ 2029$ A4000／040，6MB RAM， $340 \mathrm{MB}^{*} £ 2109$ A4000／040，6MB RAM， 420 MB＊$^{*} £ 2239$ Extra 4Mb SIMM £160，or 1Mb SIMM £45
－Drive not covered by WANG／ICL On－Site Warranty
SPECIAL OFFER：HAVE AN EXTRA 80Mb HARD DRIVE FITTED TO YOUR A4000－ JUST ADD £110 TO THE ABOVE PRICES

| AMIGA 12ロロ HD |  |
| :---: | :---: |
| $\mathrm{A} 1200+64 \mathrm{Mb}$ Hard Drive | £439 |
| A1200＋85Mb Hard Drive | £489 |
| A1200＋127Mb Hard Drive | £519 |
| A1200＋209Mb Hard Drive | £589 |
| DESKTOP DYNAMITE AVAIL | ＋¢50 |
| all A1200＇s are covered by WANG／ICL．On－Site Warn |  |

## ALDID PRDDULTS

SUNRIZE AD516／STUDIO 16
8 Track Stereo，16－Bit，Better than CD Quality－Direct to Disk Recording，Editing \＆Playback．Can be used in conjunction with Bars \＆Pipes Professional and the Digital Broadcaster from Digital Micronics via SMPTE．

## $£ 1249$

## SUNRIZE AD1012／STUDIO 16

4 Track Mono，12－Bit，Direct to Disk Recording，Editing \＆Playback．Can also be used in conjunction with Bars \＆Pipes Professional and the Digital Broadcaster from Digital Micronics，via SMPTE．

## £ 499

FOR FURTHER DETAILS，PLEASE CALL

## HARD DRIVES

A12ロロ Drives 85 MB \＆CABLE \＆ 209 127 MB \＆CABLE £ 239 170 MB \＆CABLE \＆ 265 209 MB \＆CABLE \＆ 369

## Bare 5［5］ Drives

40 MB SCSI $3.5^{\prime \prime} £ 110$ 120 MB SCSI $3.5^{\prime \prime} £ 199$ 170 MB SCSI $3.5^{\prime \prime} £ 245$ 240 MB SCSI $3.5^{\prime \prime} £ 295$ 345 MB SCSI $3.5^{\prime \prime}$ £ 365 525 MB SCSI $23.5^{\circ} £ 659$ 1.0 GB SCSI $23.5^{\prime \prime} £ 869$ 1．6 GB SCSI $23.5^{\circ} £ 1129$ 2．0 GB SCSI $25.5^{\prime 2}$＂$£ 1199$ 2．0 GB SCSI $23.5^{\prime \prime} £ 1739$ 3．0 GB SCSI $25.25^{\prime \prime} £ 2049$ 3．5 GB SCSI 25.25 ＂£2479 4．0 GB SCSI $25.25^{\prime \prime} £ 2649$ Ask about drives suitable for Digital Broadcaster 32

## Bare IDE Drives

80 MB IDE $3.5^{\prime \prime}$
£ 119 120 MB IDE $3.5^{*} \quad £ 179$ 210 MB IDE $3.5^{\circ} \quad £ 219$ 250 MB IDE $3.5^{\prime \prime}$ £ 239 340 MB IDE $3.5^{\prime \prime} \quad £ 329$ 420 MB IDE $3.5^{\prime \prime}$ £ 399

## HARD DRIVE <br> CONTRDLLERS

GVP HC8／A4008 SCSI＋ RAM A2000 \＆ 4000 £ 129 BSC AT－BUS 2008 IDE + RAM A2000 \＆ 4000 £ 89 ICD ADVANTAGE 2000 SCSI A2000 \＆ 4000 \＆ 85

FASTLANE Z3
SCSI－2＋Upto 64Mb （A3000／4000）

## Now £ 325

Ideal for Digital Broadcaster 32

## REMDVABLE DRIVES

"THE BOX" BERNOULLI By IOMEGA, 150MB SCSI-2 INTERNAL DRIVE £ 459 150MB SCSI-2 EXTERNAL DRIVE £ 549 150MB REMOVABLE CARTRIDGE $\& 89$ Drives are supplied with 1 FREE Cartridge BERNOULLI drives are up to $290 \%$ quicker than Syquest drives with better $£ / M b$ ratio.
SYQUEST DRIVES (88Mb \& 44Mb) ALSO AVAILABLE, FROM £295. PLEASE CALL

## DPTICAL DRIVES

FUJITSU 128MB SCSI INTERNAL £ 779 FUJITSU 128MB SCSI EXTERNAL £ 899
128 MB OPTICAL DISK
£ 40

## TAPE BACKUP

SANKYO 250 Mb STREAMER (Int) £ 429 WANGDAT SCSI DAT - 2Gb (Int)
£ 849

## CD RDM DRIVE

TOSHIBA XM4101B SCSI-2 (Internal), Multi-Session (Horiz/Vert mounting) £ 279

## SDFTWARE

| WORKBENCH 2.1 (MANUALS+ DISKS) | $£$ | 65 |
| :--- | :--- | :--- |
| BRILLIANCE | $£ 125$ |  |
| BARS \& PIPES PROFESSIONAL | $£ 225$ |  |
| TVPAINT 2.0 (Picaso/Retina/Harlequin) | $£ 199$ |  |
| SCALA MULTIMEDIA 210 (AGA) | $£ 149$ |  |
| MULTIFRAME (For ADPRO) | $£$ | 75 |
| WORDWORTH (V2) AGA | $£$ | 59 |
| ASIM CD-ROM FILESYSTEM (V2) | $£$ | 59 |
| TAPEWORM FILESYSTEM | $£$ | 75 |

Other Professional Software Available on Request

## MDNITDR5

COMMODORE 1942 (Stereo, Bi-Sync)
£ 349
MICROVITEC CUB-SCAN 1440
(Full Multi-sync, 0.28 pitch, Digital Memory)
£ 419

## 68881 / 68882 FPU'5

6888120 MHz PGA £ 496888225 MHz PGA £ 79 68882 33MHz PGA £109 6888250 MHz PGA $£ 149$ 6888225 MHz PLCC - For A4000/030 etc.
£ 79 6888233 MHz PLCC - For A4000/030 etc.
£ 99
6888240 MHz PLCC - For A4000/030 etc.
£129

## $6803 \square$ CPU's

6803025 MHz PGA $£ 79 \quad 6803033 \mathrm{MHz}$ PGA $£ 109$ 6803050 MHz PGA $£ 159 \quad 68 \mathrm{EC} 03040 \mathrm{MHz}$$£ 99$

## MDDEMS

$\begin{array}{ll}\text { SUPRA FAXMODEM V. } 32 \text { bis (No s/w) } & £ 249 \\ \text { SUPRA FAXMODEM V32bis (Inc s/w) } & £ 299 \\ \text { US Robotics Courier Dual Std. } 16.8 & £ 539\end{array}$

## VIDED PRODUCTS

## DIGITAL BROADCASTER 32

This Zorro III card performs all of the major functions of a full, broadcast quality, ON-LINE, NON-LINEAR digital video edit suite.
It provides REAL-TIME, FULL MOTION JPEG ( 50 fields per second) Capture \& Compression, direct to hard disk. The video can then be edited and subsequently Decompressed and Played back in REAL-TIME, at 25 fps in broadcast quality, direct to video, laser disk recorder etc. Also included on the board is full SMPTE timecoding, read \& write. The card interfaces with the AD516 Studio 16, 8 track stereo and 4 track mono audio cards from Sunrize Industries to enable full audio (lip sync) to video. It requires an Amiga 3000 or 4000 with 68040 processor, large SCSI-2 hard drive, and fast SCSI-2 hard drive controller.
Typical System:-
Amiga 4000/040 ( 2 + 16, 340Mb HD) Digital Broadcaster 32 (Zorro III Card) Fastlane Z3 (SCSI-2 Controller Card) 2.0Gb Fast SCSI-2 3.5" HD (For Video) 2.0Gb SCSI DAT Internal Tape Streamer Sunrize AD516 / Studio 16 (Audio Card) 525 Mb SCSI-2 HD $3.5^{\prime \prime} \times 1^{\prime \prime}$ (For Audio) Cub-Scan 1440 Monitor (For Amiga) Commodore 1084S Monitor (For Video) Image Processing Software (ADPRO) System Configuration \& Testing
TOTAL SYSTEM = Approx. $£ 11,500$ (inc. VAT) FOR FULL, BROADCAST (Betacam SP) QUALITY, ON-LINE, NON-LINEAR, VIDEO EDITING!

FOR FURTHER DETAILS, PLEASE CALL.

## OPALVISION

| MAIN BOARD (V.2) | $£ 369$ |
| :--- | :--- |
| VIDEO PROCESSOR | $£$ Call |
| VIDEO SUITE | $£$ Call |
| TIME BASE CORRECTOR | $£$ Call |

## GVP IMPACT VISIDN 24

24-Bit Professional Graphics board with Frame Grabber/Digitiser, Flicker-Fixer, Genlock \& Picture In - Picture etc. With Caligari 24, Macro Paint 2, MyLad \& Desktop Darkroom software.
IV24 With VUI-S (Comp / S-VHS) £ 985
IV24 With VUI- CT (RGB / S-VHS) £1279

| HARLEQUIIN + (with free vLab Y/C) |  |
| :---: | :---: |
| With 4Mb Vram/double buffered | £1549 |
| With 2Mb Vram/single buffered | £1449 |
| Y/ |  |

RETI/NA DISPLAY CARD 2Mb £ 379
RETINA DISPLAY CARD 4Mb
£ 485
P/[A55[ // 24-Bit RTG Graphics Card A2/3/4000 up to $1280 \times 1024$ (2Mb) £ 325
PILA550 // with TVPaint Junior £ 375 PILA550 // with TVPaint 2.0
£ 489

## dON't FORGET TO CALL THE BIG BANG BURGER BAR BBS 0819092064

SiSOp Prossaoa
WE ARE EXPECTING DELIVERY OF THE NEW AMIGA 4000-040 TOWER,
AMIGA 4000-LC040 \& AMIGA 4000-030 (NOT EC) SHORTLY - CALL NOW!

## GENLDCKE5

GVP G-LOCK (Hi8) $£ 299$ Rendale 8802 FMC \& 175

## SYSTEM BUILDING

WE HAVE THE EXPERTISE TO BUILD A COMPLETE SYSTEM FOR YOUR APPLICATION. CALL TO DISCUSS YOUR REQUIREMENTS

## SPECIALISTS?

WE KNOW ABOUT THE PRODUCTS THAT WE SELL, AND ARE HAPPY TO ADVISE YOU.

## SERVICE

FOR A PERSONAL SERVICE, AND AFTERSALES BACKUP THAT IS SECOND TO NONE, LOOK NO FURTHER

## PRICE MATCH?

SORRY, WE CAN'T ALWAYS MATCH ON PRICE - HOWEVER OUR EXPERTISE IS FREE

## DELIVERY CHARGES

## Express £6

Economy £4
For timed deliveries, or heavy orders, please call.

## SURCHARGE

If ordering with ACCESS or
VISA, there is $a 2.5 \%$ surcharge. No surcharge for VISA-DELTA, CONNECT or switch

## HOW TC ORDER

have your debit or CREDIT CARD DETAILS AT HAND, AND CALL:-
0992-714539 10-7 Monday- Friday Closed Sat \& Sunday OR BY POST,
ALWAYE PHONE FIRET TO YEPUIFY PHOCE \&
AVALABLTV BERORE SENDINA YOUM ORDE月 TO: "WHITE KNIGHT TECHNOLOGY",
P.O. BOX 2395, WALTHAM CROSS, HERTS. EN8 7HQ

ALL PRICES Include vat

HARD DRIVE ${ }^{12005}$ at LOW PRICES

## FROM THE UKS NO. 1 AMIGA HARD

 DRIVE SPECIALISTS HAVE A HARD DRIVE FITTED from £159.99

OH DEAR! HE NEEDS A HARD

DRIVE ! PRICE INCLUDES: FREP FTTYIM
 MENDT poppaytap 4 PARTITMONEO DETVE.
FUCL:
 12 how plas marraly


 ALL OUR DRIVES TIT IWTEMELLY WITM WO MODS TO CA.
AI drives are formatied, partitioned \& FULL workbench is instalied so they are ready to use
Weve 100 s of satistied 1200 hard drive users A Weve 100 of satisfied 1200 hard drive users 4
If we fit the drive - we cover your Amiga for 17 we fle the drive-we cover your Amiga
the remainder of tis 12 month warranty, so dont be put of by 'SOUR GRAPES'

| OMEG | £69.99 | BATTERY |
| :---: | :---: | :---: |
| IMEG | £99.99 | BACKED ON- |
| 2MEG | £129.99 | BOARD |
| 4MEG | £199.99 | CLOCK |
| 3MEG | £399.99 | FPU SOCKET |

A1200 NO HD A $1200+64 \mathrm{MEG}$ A $1200+80 \mathrm{MEG}$ A1 $200+17$ OMEG A1200 +212 MEG
A1200 2 250MEG A1200 +27 OMEG A $1200+340 \mathrm{MEG}$ A. $1200+540 \mathrm{MEG}$

ONLY £279.99
ONLY £439.99
ONLY £454.99
ONLY £499.99
ONLY £514.99
ONLX £539.99
ONLY £559.99
ONLY E599.99
ONLY £849.99
optional 2 mD year warranty $£ 27.99$ ALL PRICES INCLUDE 12 HOHTHS WARRANTK covering oomputor : Arive

## PRICES SHOWN ARE FOR

RACE $n$ CHASE

## PACK

ADD £45 FOR DESKTOP DYNAMITE PACK
£229.99 inc 2 free SONG BOOKS worth 899.98
BACKUP UTILITIES
X COPY PRO
Mk1 CYCLONE ADAPTOR 825.99
C9.89

## TOP AMIGA GAMES

## 



AESS CISHPIO
$\qquad$
Estur sraike
OIIE 2 - PROMTIER

TMish IP 2000.



VERERIVE.


FIETVLE socar


THE AMAZING CHAOS GAMES PACK ance rivite $£ 19.99$ ntax micos caivern?

MIRACLE KEYBOARDS

RICOH DEALER
RRINTER NOW £689.99
MONITORS
COMNODORE 10845 £189.99
FOR $31 K H Z M O D E S ~ O N L Y$
MICROVITEC CUBSCAN 14
HI-RES COLOUR MONITOR
with Digital memory pictur-
aising for borderleas display
NOW ONLY £399.99
HORKS IN ALL 1200 MODES
MICROVITEC
20" CUBSCAN £949.99
SUPERFI 1 SIEREO SPEARRRS $\mathbf{6 1 9 . 9 9}$
WITH ANH CUSCCN/AUROSCAM MONITCR
MICROVITEC AUTOSCAN 14 HI-RES COLOUR MONITOR NEM $\begin{gathered}\text { Diqital momary) } \\ \text { only } £ 289.99\end{gathered}$

DIY HARD DRIVE KIT
AMIGA 600/1200
xDS 3.5" HARD DRIVE HOUSING KIT
COLOUR MATCHED ALLOT
TNKES $3.5^{\prime \prime}$ IDE DRIVES
tDE ADAPTOR \& $2.5^{\prime \prime}$ CABLE inc
Power connector.
MD IMSTALL / PREP DISK
EXTERMAL PSU SOCKET
external psu socket
The complete nolut ion tor connecting 3,
DE driver to your Anige $6 t 0$ med 1200 .

INTRODUCTORY PRICE ONLY £69.99

A1200 ACCELERATORS
GVI GVP A1230-2 40MHz

NSH GVP A1230-2 50 MHz

VIDEO DEPT

| GVP GENLOCK $£ 289.99$ |
| :--- |
| MINIGENLOCK PRO |

PRO VIDEO PROCESSOR
ONLY £149.99


WITH OPTIONAL 68882 FPV. 251 FPU ADD E49.99 33 MHZ FPU ADD $£ 69.99$ 4OMHZ FPU ADD $£ 99.99$


AMIGA 500 HARD DRIVES \& UPGRADES







Scan rates
1 have recently encoun. tered a problem which 1 am sure is shared by many Par Amiga owners in that I have batalled a Picasso II retargetable haphics board and I am now seekEsa suitable monitor.

The Picasso's screen modes ange between 36 kHz and 63 kHz , ned the IDEK MF-5315, which scans mineen 30 and 68 kHz seems suitWhe. The problem is that many finiga program screens insist on hing the 15 kHz PAL and NTSC mateen modes and cannot be Chered, even using Picasso's bunge Screen software, an exam6 of which is ADPro's main conEal screen.
It would therefore seem that I Fquire a monitor to scan between Fand 63 kHz , which is asking quite flot considering that the only monbars which can scan down to fikHz usually can't scan above Wriz.
I could of course split the A-iga's RGB signal between the EaK and my existing TV but I don't Want to sending incorrect frequenless to one of them.

Would it be worth purchasing a wan-doubler to change all 15 kHz Enades to 30 kHz ? It so, can you Wase recommend one and explain Ma basic workings?

Brett Buckley, Huddersfield
You seem to be a little confused about how the Picasso card itself works. the most cards of its kind it has a Willt in "scan-doubler" (de-interWeer, or flicker fixer to the rest of a) which is software controlled Cam Workbench.
This means that Picasso will rearget any 15 kHz screens opened hom Workbench which use the Aniga's display database.

All or most productivity software, including ADPro, can be ande to re-target to Picasso's Wher frequency display, though ney will retain their original pixel Essolution.

Commercial games software which takes over the system and a nan productivity packages such as Caligari will not work with RTG eards, and for most of these, cerWinly all the games, a 15 kHz disElay device will be needed.

If you still think you need a EWHz monitor, try IDEK gain. The Eurrent range of monitors has been uggented by special "low scan" models which cover the usual high equencies but also have a setting lor the PAL 15 kHz mode. They are nore expensive, of course, but you fats what you pays for.

Lightning never strikes twice... unless it's in the Amiga's premier technical letters page, that is


## Deep-fried chips



About eight or nine weeks ago, my Amiga 500 stopped working after having trouble with my Star NX-2420 printer. I took it to the local ( 300 km away!) dealer who diagnosed the problem as a destroyed CIA chip and replaced both.

Upon returning home, I fired up my system and saw the familiar Workbench screen once more. It did not take long for the printer, after a little cable switching with the power off, of course - to once again fry the CIA.

The dealer again replaced my CIA chip, but only the one directly in line with the parallel port. This worked, and aside from a fried printer (it is 120 V and was plugged into 220 V ), the rest of the system worked.

However, I discovered that disks and programs were not loading properly. In fact, if I double clicked on one, it was a toss-up whether it loaded or not. In the latter case the system would freeze, warranting a reboot.

What is wrong with my system? I suspect that the other CIA chip is on its way out. Am I right?

John Gibbs, Yanbu al-Sinaiyah, Saudi Arabia

AIt certainly sounds as if the dealer should have replaced both CIA chips the second time round, especially if you have been plug. ging mismatched peripherals into your Amiga.

Plugging an electrical device into the wrong type of power outlet will damage both the peripheral itself and anything it is connected to through overloads, voltage spikes, and so on, and this sounds like the most likely cause of your I/O
problems. The best course of action would be to have your dealer give the Amiga a complete once-over to check that more elements of the system have not been damaged by your mistake in connecting a printer with the wrong power rating.

## Disk samples



I have started to experiment with music on my Amiga and have bought a DSS 8 -bit sound sampler and a Midi interface to connect to my Yamaha keyboard. now, however, I've started on a tune which demands long samples and I don't have the memory to play them back.
Would it be cheaper to buy extra memory or go for a hard drive? I've heard of PD direct-to-disk sampling software, but
is it any good and would I need a fast hard drive?

G Masterton, Farnborough

Sampling direct to hard disk does not require an overly fast hard drive and any ordinary IDE or SCSI device should have a data transfer rate sufficient for the job. In cases where lower sample quality is acceptable (no more than about 14 kHz ), a floppy disk can be used to play back fairly large samples, and these are much slower than HDs.

For CD quality sound $(44 \mathrm{kHz})$ you will need about 11 Mb for one minute of stereo, so a 40 Mb hard drive should be enough for basic use, though if you wish to store lots of samples a $100 \mathrm{Mb}+$ hard drive would be better.

Public domain and shareware direct-to-disk sampling programs are available, and many of them do a fine job, but don't expect the sort of features your GVP software offers.

The majority of PD sampling programs of this kind are designed for the basic job of sampling and if you don't have wads of memory you might find editing the samples a tad difficult.

One of the commercial virtual memory packages, such as GigaMem which uses hard drive space as if it were RAM, would be a good idea in this case, but you'll need a chip with a memory management unit (MMU), which is not present in chips with the EC designation.
The 68EC020, fitted in all A1200s, was originally designed to be used as a cheap embedded controller (hence EC) for domestic appliances and doesn't have an MMU. Nor does the 68EC030 used in the A4000/030, so make sure before looking at virtual memory options that you have the appropriate hardware.

## Bitmap success

Two days after writing you a letter asking for advice on how to solve the problem of the message "unable to read

## S-Xpress

$\sigma$I've just completed making my first auto-booting disk and I'm feeling proud of myself, but I'm still unclear about exactly what all the directories do, especially S and L. I know that the startup-sequence goes in S, but what else can it be used for and what goes in the L directory? Please help, because I can feel confusion creeping back in.

Dave Fairlie, Dudley

人The S directory is used mainly to store script files (of which startupsequence is the best example), which means it is often where ARexx macros are stored, and where user-startup scripts, and special startup scripts for various programs can be located. Apart from the odd alteration to startup-sequence, most users need never look in the S directory.

Your L directory is where device handlers are stored. These files are complementary to the devices found in the Devs drawer and a bare Workbench disk will usually contain at least the Ram-Handler, which provides the RAM disk, and the Port-Handler, which controls the way in which the serial and parallel ports are accessed.

Again, the L directory is one which should need little in the way of intervention from the user, though it is also where, in pre-WB2 machines, the disk-validator file is stored, and so is also where the Saddam virus will lurk when he first infects your machine.
$>$
bitmap" I have managed to solve the problem by using RDPrep to re-format the whole disk (yikes! - Ed).

However, Id still like to know what a bitmap reading error is and its likely causes, so perhaps you could still reply to those questions. My other query about whether the whirring noise of a hard disk is common to all drives stands, though, as this noise is driving me up the wall.

Stephen Solar, Baguley

AThe whirring noise you can hear with all hard drives is the sound of the disk continually rotating. As hard drives spin much faster than floppies it is necessary to keep them spinning rather than wait each time you access the drive for it to reach operational speed.

Floppy users can initially be shocked by the noise made by hard drives, partly because they are the only constantly moving parts in a system unless it also has a cooling fan.

A bitmap, in hard drive terms, is a digital picture drawn by the Amiga on the hard drive's root block. This picture holds the locations of all files on the drive and if it is corrupted you will receive error messages relating either to the fact that it cannot be read or that the drive is "unvalidated".

Bitmap errors are about the least dangerous of hard drive problems and shouldn't cause complete re-formats so long as you have access to one of the disk repair programs on offer.

Quarterback Tools, given away on a recent CoverDisk, has a few problems with the A1200's IDE drive, but Quarterback Tools Deluxe does not and should sort out the problem in less traumatic fashion if it ever appears again.

## Tool types



The use of so-called "tool types" in icons has been a source of confusion for me since I bought my A500 Plus, and I still


> You got problems too? Then drop a line to Amiga Computing Advice Service, Europa House, Adlington Park, Macclesfield SK10 4NP and we'll move heaven and earth to help in these columns. But sorry, we cannot reply personally, so save those 'SAEs.
don't know exactly what they do. For example, many of my program icons have tool types for font directories, and something called CX_Popup being either yes or no. What's it all about, eh?

Roger Pennington, Cardiff

Tool types are the same as the parameters you might type in to accompany a CLI command and they offer the user a chance to change the way a program loads up and automatically pass instructions to it as it loads.

Those tool types which refer to a drawer on your hard drive usually tell the program where to look for its data files and so on, and the CX_Popup tool type tells the Amiga whether a program's interface should appear when it is loaded.

Only commodities, designed to run at boot-up in the background usually use CX_Popup tool types, but authors are
free to use a list of standard tool types (for consistency's sake) or use as many of their own as they feel necessary.

Full details on a program's tool types can usually be found in the accompanying documentation and should be looked upon as useful and flexible allies rather than foes.

If a program opens in interlace, for example, and you can see no way to change this through the program's menus, checking the icon's tool types can sometimes reveal tool types such as LACE $=$ YES which can be changed to alter the default screen mode.

## CD for all

$\sigma$In the eyes of A2000 owners, such as myself, the CD-ROM boom seems far away, but I have recently been given hope by the appearance on my favourite bulletin board of a CD-ROM filesystem for all

## Gadget trouble

$\because$I have a problem with the palette editor in the Prets drawer of my new A1200. Although it allowed me to customise my Workbench colours originally, if I now select it I get an advisory error "srequires colourwheel gadget v39".

Using SIID shows me that the gadget is indeed present in my SYS:Classes/Gadgets drawer, but if I select to run this through SID I get "file not executable return code 10 ". Selecting Multiview also shows me that the gadget is there but if I try to open any file I am told that it is an unknown datatype. Is this a separate problem?

If I boot from my copy of the Workbench 3.0 disk the editor selects as advertised. What can I do and can you give me more information on return codes? Incidentally, why does SID tell me that my 85 Mb drive is only an 83.5 Mb drive?

Mike Phillips, Naples, Italy
It sounds as though you have a systemic problem, as both the datatypes and gadgets are failing to function properly. These are not executable files,
so don't worry about the SID error message. As long as you have v39.6 of Workbench (the version supplied with every A1200), you should have no problems.

First thing to try is re-installing your Workbench software to ensure that all the correct libraries and files are present, then get a modern virus checker and give all your disks a good going over.

It is sometimes a first indication of a viral infection when software doesn't function as expected, and a general virus sweep is a good idea from time to time anyway. If your Palette program still doesn't work you should lay your hands on a completely fresh WB3 disk and re-install with that.
Many users buying A1200s from local dealers who had installed Workbench in the back room of the shop later found out that installation, consisting of dragging all visible icons to the system partition, had only been partially completed, and this could be the case with your drive.

## Bad lists



I've noticed a bit of a deb on the subject of program ings in the magazine, and like to add my tuppence worth. I hate t buggers.

How many times, when I owne Spectrum, did I blindly type in a list incomprehensible gibberish, only to that some unknown cock-up in line caused the program to crash? Dozen

How many times did I throw Spectrum against the wall in frustrat when I realised after half an hour that tiny typeface was responsible for thinking a colon was a semi-color comma a full stop, and so on? Dozens

How soon would I like to refresh memory and re-experience this s inflicted hell? Never. And that's my penn'orth on the subject of listings.

If you have to have program list please supply them on disk. That wa some poor fool wants to type them in can print them out and do it the hard while the rest of us read through then our monitor screens.

Graham Kelly, Southamp

AOK, that's another additior the Great Listings Debate. far we've had beginners support, old lags (who suffered same hell as Mr Kelly) in staun resistance to the idea, and a major of waverers.

The jury is still out, folks, so those pens a-scribbling.

Amigas. If I install this filesystem, access CD software? If so, will I ner special interface or some sort of hardware to make CD-ROMs wori my ECS-equipped machine?

H Troughton, Ipse

AThe filesystem to which refer is designed to mom SCSI controlled CD-RC drive as if it were another $A$ m device such as a floppy or hard and should give your system acces most non-program CD-ROMs wh comply to the ISO 9660 standard.

With the help of a SCSI inter card and a cheap CD-ROM from 2 dealer you should be able to access CD-ROM of clip art, text files graphics, though you won't, of cout be able to play PC games.

You should also have access to various Amiga CD-ROMs such as CDPD collection from Almath Systems, but I am unsure about possibility of playing bootable $C \mathbb{}$ game disks.

Download the archive and checi documentation for yourself if you sy full details, but always be aware this is not a CDTV or CD32 "er tor", but simply a filesystem by some CDs can be read from.

## NEW VOLUMES FROM. <br> E.M.COMPUTERGRAPHIC

## NEW 256 COLOUR GRAPHIES FOR AGA AND 24 BIT AMIGAS'

EMC Volume 136-6 Disks - £16.50-256 Classic Cars 6 disks packed with Classic cars of all shapes and sizes. EMC Volume 137-6 Disks - £16.50-256 Cars 3 EMC Volume 138-6 Disks - £16.50-256 Fast Cars Testas, F-40's, Countachs, Porches, Lotus and lots more EMC Volume 139-6 Disks - £16.50-256 Racing 6 disks packed full of Indy Racing, Formula 1, Drag Racing and more! EMC Volume 140-6 Disks - £16.50-256 Boats EMC Volume 141 and just about every orher type of boat EMC Volume 141 - 5 Disks - $£ 14.00$ - 256 Trains EMC Volume 142-5 Disks - £14.00-256 Trains 2nd of our series of 256 Train vols. containing Steam and Electic locos EMC Volume 143-5 Disks - £14.00-256 Trains 3 3rd of our series of 256 Train vols. containing Steam and Electic locos EMC Volume 144-5 Disks - £14.00-256 Trains 4 4 th of our series of 256 Train vols. containing Steam and Electic locos! EMC Volume 145-6 Disks - £16.50-256 Military Desert Storm, Tanks, Bombs, Jets, Cannons, Navel and lots more! EMC Volume 146-6 Disks - £16.50-256 Flight Planes, H'copters, LightPlanes and stunning pic. of Hot Air balloons. EMC Volume 147-6 Disks - $£ 16.50-256$ Jet Fighters F-117's, Phantoms, F-16 Falcons, Aircraft Carriers and jlots more!
EMC Volume 148-6 Disks - $16.50-256$ Snow Scenes Breathtaking pics. of Snow Capped M 'tains, snowy forests and rivers. EMC Volume 149-6 Disks - £16.50-256 WaterLife 2 Colourful pics. of Tropical Fish, Coral, StarFish and lots more! EMC Volume 150-6 Disks - £16.50-256 Travel Stonehenge, KingTut (Stunning), Grand Canyon, Collesium and more! EMC Volume 151-5 Disks - £14.00-256 NASA 1 A'nauts, Shuttles, Planets, Lunar Modules and Hubble T'scope etc EMC Volume 152-5 Disks - £14.00-256 NASA 2 Shuttles, S'lites, Launch Sites, Launchs and lots of Space Shots! EMC Volume 153-6 Disks - £16.50-256 Babes 1 Due to overwhelming demand...yet more disks of Beautiful 'babes! EMC Volume 154-6 Disks - £16.50-256 Babes 2 Due to overwhelming demand...yet more disks of Beautiful 'babes! EMC Volume 155-6 Disks - £16.50-256 Babes 3 Due to overwhelming demand...yet more disks of Beautiful 'babes! EMC Volume 156-6 Disks - £16.50-256 Babes 4 Due to overwhelming demand...yet more disks of Beautiful 'babes! EMC Volume 157-6 Disks - $£ 16.50-256$ Babes 5 Due to overwhelming demand...yet more disks of Beautiful 'babes! EMC Volume 158-6 Disks - £16.50-256 Hunks One for the Girls - 6 disks of 'Chippendale' type Hunky men! EMC Volume 159-6 Disks - £16.50-256 Various 2 Pictures mainly comprising of Babes and Wild Cats.
EMC Volume 160-6 Disks - £16.50-256 Various 3 Famous People, Waterlife, Snow Scenes and Travel. EMC Volume 161-6 Disks - £16.50-256 Various 4 Space, Hunks, Babes, Rock Stars and Famous People!

## NEW IFF HIGH QUALITY CLIIPART

EMC Volume 162-6 Disks - 16.50 - IFF Kids Art Artwork by Kids - intended for Nursurys, Schools and Playgroups, EMC Volume 163-6 Disks - 16.50 - IFF Sports 2 High quality clipart - Cricket, Martial Arts, Rugby, Sking and more
EMC Volume 164-6 Disks $-£ 16.50$-IFF Sports 3 Football, Fishing, lce Hockey, TPBowing, Snooker, Windsurting. EMC Volume 165-6 Disks- £16.50-IFF Animals 6 Jungle, Catssall types), Birds, Horses, Fist, Dogs and Farm. Europe, S. American, Mid. East and West Indies + more. EMC Volume $167-5$ Disks - $£ 14.00$ - IFF Maps 2 EMC Volume $168-6$ Disks - $£ 16.50$ - IFF Various 8 English Houses, Electrics and loads of Metal)Woodworking Tools! EMC Volume 169 - 6 Disks - $£ 16.50$ - IFF Various 9 EMC Volume 170 - 6 Disks $-£ 16.50$ - IFF Various 10 2mb of Borders, Furniture, Food, Toys\&games, and heaps of Trains. EMC Volume 171 - 6 Disks - £16.50- IFF Various 11 EMC Volume 172-6. Disks $-\mathbf{\Sigma 1 6} 16.50$ - IFF Various 12

## E(S' I6 COLOUR IMAGES' FOR ALL AMIGAS'

created especially for all our customers who have flooded us with requests for high quality colour graphics for their non AGA/24 bit Amigas. These images can be use
with ALL versions of Dpaint, all DTP/Graphics programs and are especially suited when used as video backdrops in all versions of Scala.
YOU WON'T BELIEVE THAT THESE IMAGES ONLY CONTAIN 16 COLOURS! EMC Volume 173-6 Disks - £16.50-ECS Chicks Girls, Giris and more Girls, Stunning Pictures...Enough to make you drool! EMC Volume 174-6 Disks - £16.50-ECS Chicks 2 Girls, Giris and more Girls, Stunning Pictures...Enough to make you drooll EMC Volume 175-6 Disks - £16.50-ECS Chicks 3 Girls, Girls and more Girrs, Stunning Pictures.. Enough to make you drooll EMC Volume 176-6 Disks - £16.50-ECS Chicks 4 Giris, Giris and more Girls, Stunning Pictures...Enough to make you drooll EMC Volume 177-6 Disks - £16.50 - ECS Chick 5 Girls, Girls and more Girrs, Stunning Pictures...Enough to make you drooll EMC Volume 178-6 Disks - $£ 16.50$ - ECS Panorama Mountains, Lakes, Trees, Landscapes - Great Scala B'drops DDPaint Pics! EMC Volume 179-6 Disks - $£ 16.50$ - ECS Panorama 2 Mountains, Lakes, Trees, Landscapes - Great Scala B'drops $/$ PPaint Pics! EMC Volume 180-6 Disks - $£ 16.50$ - ECS Panorama 3 Mountains, Lakes, Trees, Landscapes - Great Scala B'drops/DPaint Pics! EMC Volume 181-6 Disks - 16.50 - ECS Panorama 4 Mountains, Lakes, Trees, Landscapes - Great Scala B'drops /DPaint Pics! EMC Volume 182-6 Disks - $£ 16.50$ - ECS Space 1 Just about everything to do with Space including NASA and Star Trek! EMC Volume 183-6 Disks - £16.50-ECS Space 2 Just about everything to do with Space including NASA and Star Trek! EMC Volume 184-6 Disks - £16.50-ECS Cars 1 BMWs. E-Types, Ferraris, Formula1, Porches, Indy Car Racing and more! EMC Volume 185-6 Disks - \&16.50-ECS Cars 2 Countachs, Ferraris, E-Types, Vettes, TransAms, Comaros and Classic. EMC Volume 186-6 Disks - $\mathbf{\varepsilon 1 6 . 5 0 - E C S}$ Aircraft 1 Aircatt Carriers, F16s, Helicopters, Mustangs, Phantoms and lots more! EMC Volume 187 - 6 Disks - $£ 16.50$ - ECS Aircraft 2 Bombers, Buccaneers, F117s, Hunters, F14s, F15s, F16s and lots more! EMC Volume 188-6 Disks - 116.50 - ECS Animals 1 Apes, Bears, Pandas, Seals, Wolves, Reindeers, Deers and lots more! EMC Volume 189-6 Disks - $£ 16.50$ - ECS Animals 2 Dinosaurs, Elephants, Snakes, Iguanas, Spiders, Frogs and lots more! EMC Volume 190-6 Disks - £16.50-ECS Animals 3 This vol. mainly contains Horses but also includes some other Animals. EMC Volume 191-6 Disks - $\mathbf{1 1 6 . 5 0}$ - ECS Animals 4 This vol. mainly contains Wild Cats but also includes some other Animals, EMC Volume 192-6 Disks - £16.50-ECS Dogs \& Cats 1 Loads of very high quality pictures of Domestic Dogs and Cats. EMC Volume 193-6 Disks - $£ 16.50-E C S$ Dogs \& Cats 2 Even more very high quality pictures of Domestic Dogs and Cats. EMC Volume 194-6 Disks - £16.50 - ECS Famous People Film Stars, Rock Stars, Other Famous People and lots of WWF Stars. EMC Volume 195-6 Disks - 116.50 - ECS Military Tanks, Aircratt Carriers, Desert Storm Pics, Infantry and lots more! EMC Volume 196-6 Disks - $£ 16.50$ - ECS Motor Racing Racing Bikes, Drag, Senna, Schumacker, Mansell \& lots of Formula One EMC Volume 197-6 Disks - £16.50-ECS Trains Packed full of pictures of Steam Trains and Deisel/Electric Locomotives EMC Volume 198-6 Disks - $£ 16.50-$ ECS WaterLife TropicalFish, Coral \& Other Sea Creatures. Great pictures for Backdrops! EMC Volume 199 - 6 Disks- $\mathbf{\varepsilon 1 6 . 5 0 - E C S ~ W o r l d ~} 1$ Pics of Egypt (inc Tutt), France, Greece, italy, USA etc. (Holiday Videos?) EMC Volume 200-6 Disks - £16.50-ECS World 2 Am. Indians, A'railia, China, Britain, India, Japan + more (Holiday Videos?)

## I6 C'OLOUR CLIPART FOR ALL AMIGAS'

 
All disks, except the disks on EMC Volume 204, contain special IFF index thumbnail screens. Simply double click on the "Disk Index" icon to see the entire disk contents!
EMC Volume 201 6 Disks - $£ 16.50-C C A$ Anima
EMC Volume 202 6 Disks £16.50 - CCA Animals 2
EMC Volume $203-6$ Disks - $£ 16.50-$ CCA Animals 3Horses, Reptiles and just about every mammal you could possibly think of!EMC Volume 204-10 Disks - £25.00-CCA MapsThis volume contains full colour maps of probably every country on Earth!EMC Volume 205 - 6 Disks - $£ 16.50$-CCA FlowersPot Plants, Wild Flowers, Garden Flowers, Bulbs, Hanging Plants etc..EMC Volume $206-6$ Disks - $£ 16.50$ - CCA NaturalThis volume contains lots of Fruit, Vegetables and Trees.
EMC Volume $207-6$ Disks - 16.50 - CCA Various

## E.M.COMPUTERGRAPHIC

THE U.K. 'S NUMBER 1 AMIGA FONT AND CLIPART DISTRIBUTORS AMIGA COMPUTING ISSUE 52

## BITMAPPED CLIP ART

EMC Volume 1 - 5 Disks - 14.00 . Classic IFF Clipart EMC Volume 11 - 5 Disks - $£ 14.00$ - Classic IFF Clipart EMC Volume 15 - 8 Disks - £22.00. Classic IFF Cipart EMC Volume 22-5 Disks - £14.00-Classic IFF Clipart EMC Volume 28-5 Disks - 14.00 - Classic IFF Clipart
UERV HIGH QUALITY IFF CLIP ART
 pregrams. Standard IFF format and is campatable with ALL major appica EMC Volume 34 - 5 Disks - £14.00 - IFF Animals Bears, Birds, Dogs, Wator, insects, Horses. Aegties and Exich Anmaiss EMC Volume 36 - 8 Disks - £22.00 - IFF Transport EMC Volume 37 - 5 Disks - £14.00 - IFF Business EMC Volume 38 - 5 Disks - £14.00 - IFF Fantasy 1 EMC Volume $39-5$ Disks - £14.00 - IFF Fantasy 2 EMC Volume 40 - 5 Disks - $£ 14.00$ - IFF Borders EMC Volume 41 - 6 Disks - $£ 16.50$ - IFF People 1 EMC Volume 42 - 5 Disks - $£ 14.00$ - IFF Natural EMC Volume 43 - 5 Disks - £14.00 - IFF Sports EMC Volume 44 - 6 Disks - $£ 16.50$ - IFF Education EMC Volume 45 - 5 Disks - $£ 14.00$ - IFF Various EMC Volume 46 - 5 Disks - £14.00 - IFF Various 2 EMC Volume 47-5 Disks - £14.00-lFF Humour EMC Volume 50 - 6 Disks - 166.50 - IFF Dogs \& Cats EMC Volume 51-5 Disks - £14.00 - IFF Birds \& Insects EMC Volume 52 - 5 Disks - £14.00 - IFF Animals 3 EMC Volume 53 - 5 Disks - 214.00 - IFF Animals 4 EMC Volume 54-5 Disks - £14.00 - IFF Animals 5 EMC Volume 55-6 Disks - 116.50 . IFF Flowers 1 EMC Volume 56-6 Disks - 16.50 - IFF Flowers AMC Volume 57-6 Disks - £16.50. IFF Flowers 3 out there! EMC Volume 58 - 6 Disks - £16.50 - IFF Trees EMC Volume 59 - 6 Disks - 16.50 - IFF Plants 1 EMC Volume 60-6 Disks - £16.50 - IFF Plants 2 EMC Volume 61 - 6 Disks - £16.50 - IFF Military EMC Volume 62 - 5 Disks - $£ 14.00$ - IFF Fruit EMC Volume 63-5 Disks - £14.00 - IFF People EMC Volumo 64 - 5 Disks $£ 14.00$. IFF People 3 more EMC Volume 64-5 Disks - $£ 14.00$ - IFF People 3 EMC Volume 65 - 6 Disks - $£ 16.50$ - iFF Events EMC Volume 66 - 6 Disks - $£ 16.50$ - IFF Work Garden Tols Procision Tools, Wisks Man, Machinery and comm 1 - 16.50 - IFF Food EMC Volume 68 - 6 Disks - E16.50 - IFF Food 2 . Drinks. Salad, Mushe 69 - 5 Disks - £14.00 - IFF Sclence EMC Volume 70 - 5 Disks - £14.00 - IFF Education 2 EMC Volume 71 - 6 Disks - $£ 16.50$ - IFF Geography EMC Volume 72 - 5 Disks - $£ 14.00$ - IFF Various 3 EMC Volume 73 - 5 Disks - $£ 14.00$ - IFF Various 4 EMC Volume 74-5 Disks - £14.00-IFF Various 5 EMC Volume 75 - 5 Disks - £14.00 - IFF Various 6 Amp bali. Baskeme 76 - 5 Disks - $£ 14.00$ - IFF Various 7

## OTHER FONTS' AND CLIPART

EMC Volume $2-6$ Disks - $£ 16.50$ - PC ClipArt EMC Volume $3-2$ Disks - $£ 6.00$ - P'stream Fonts EMC Volume 21-6 Disks - $£ 16.50$ - PCX Clipart EMC Volume $32-6$ Disks - $£ 16.50$ - IMG ClipArt EMC Volume 33 - 6 Disks - $£ 16.50$ - IMG ClipArt EMC Volume 48 - 5 Disks - $£ 14.00$ - ColorFonts EMC Volume 49 - 5 Disks - $£ 14.00$ - ColorFonts EMC Volume 18-5 Disks - $£ 16.50$ - 60 PDraw Fonts EMC Volume 19-5 Disks - $£ 16.50$ - 63 PDraw Fonts EMC Volume 20-5 Disks - $£ 16.50$ - 50 PDraw Fonts Typesmith Demo Disk £3.50
Pagestream2 Demo Disks £6.99
$\begin{array}{ll}\text { Pagestream2 Demo Disks } & \text { Opalvision Update Disks } \\ \text { £6.99 }\end{array}$

## 256 IFF COLOUR GRAPHITS FOR AGA AND 24 BIT AMIGAS

Standard IFF256 format pics that will load directly into any 24 bit AGA application, such as Dpaint 4.5, Opalvision, ADPro
can use these pics as WB backdrops on A1200/A4000's. EMC Volume 88 - 6 Disks - $£ 16.50$ - 256 Cars 1 EMC Volume 89 - 6 Disks - $\mathbf{1 1 6 . 5 0}$ - 256 Cars 2 EMC Volume $90-6$ Disks - $£ 16.50$ - 256 Planes EMC Volume 91-6 Disks - £16.50-256 Planes EMC Volume $92-5$ Disks - $£ 14.00-256$ Space EMC Volume 93 - 5 Disks - £14.00-256 Space 2 Enterpises, Space Shuttles, NASA Shiois and more EMC Volume 94-5 Disks - £14.00-256 Women EMC Volume 95 - 5 Disks - £14.00-256 WildCats Lions, Tigers, Leopards and lots of other WildCats! EMC Volume 96 - 6 Disks- $£ 16.50-256$ Horses y EMC Volume 97 - 6 Disks - $£ 16.50$ - 256 Horses 2 EMC Volume 98-5 Disks - £14.00-256 Dogs 1 EMC Volume 99-5 Disks - £14.00-256 Dogs 2 EMC Volume 100-6 Disks - $£ 16,50$ - 256 Cats 1 FMC Volume 101-6 Disks - $\mathbf{E 1 6}$.50-256 Cats $E M C$ Volume $101-6$ Disks - $\mathbf{\Sigma 1 6 . 5 0}$ - 256 Cats 2
More really cute and humorous pictures of Cats and Kittens! EMC Volume 102-6 Disks - £16.50-256 WaterLife EMC Volume 103-6 Disks - $£ 16.50$ - 256 Sur \& Sea Just about everything from Tropical islands to Sandy Beaches. EMC Volume 104-6 Disks - 16.50 - 256 Animals EMC Volume 105-6 Disks - £16.50-256 Animals Elephants, Gorillas, Chimps, Monkeys, Seals, Koalas and more! EMC Volume 106-6 Disks - $£ 16.50$ - 256 Animals 3 EMC Volume 107-6 Disks - $£ 16.50$ - 256 Animals 4 EMC Volume $108-6$ Disks - $£ 16.50$ - 256 Panorama 1
Forests, Mountain Rivers/Lakes, Waterfall, Rainbows and more. EMC Volume 109-6 Disks - £16.50 - 256 Panorama 2 EMC Volume $110-6$ Disks - $£ 16.50$ - 256 Panorama 3 EMC Volume 111-6 Disks - $£ 16.50-256$ The Sun Sunrises and Sunsets from Cities to Lakes to Deserts! EMC Volume 112-5 Disks - £14.00-256 World People Amencan/Amazon indians, hawailans, Atricans and more EMC Volume 113-6 Disks - $£ 16.50$ - 256 America EMC Volume 114-6 Disks - £16.50-256 Castles EMC Volume 115-6 Disks - £16.50-256 The World EMC Volume 115 - 6 Disks - £16.50-256 The Worid EMC Volume 116 - 5 Disks - $£ 14.00$ - 256 Birds 1 EMC Volume 117-5 Disks - £14.00-256 Birds 2 EMC Volume 118-5 Disks - £14.00-256 Birds 3 EMC Volume 119-6 Disks - £16.50-256 Fantasy 1 EMC Volume 120-6 Disks - $\mathbf{1 6 . 5 0}$ - 256 Fantasy 2 EMC Volume 121-6 Disks - £16.50 - 256 The Movies EMIC Volume Starwars, Top Gun, Terminator, Indy, Karate Kid etc. EMC Volume 122-5 Disks - $£ 14.00$ - 256 Renders EMC Volume 123-5 Disks - £14.00-256 Renders 2 EMC Volume 124-5 Disks - $£ 14.00$ - 256 Renders 3 EMC Volume 125-5 Disks - £14.00-256 Girls 1 EMC Volume $125-5$ Disks - £14.00-256 Girls EMC Volume 126-5 Disks - £14.00-256 Girls 2 EMC Volume $127-5$ Disks - $£ 14.00$ - 256 Girls 3 EMC Volume 128-6 Disks - $£ 16.50-256$ Water Girls Beautiful Women under Waterfalls, at the Pool and very wet! EMC Volume 129-5 Disks - $114.00-256$ Swim Suits EMC Vorme 130 - 5 Disk - 14.00 - 256 Bikinis Beautiful Women, of all shapes and sizes, in Bikinis EMC Volume 131-5 Disks - £14.00-256 Beach Girls EMC Volume $132-5$ Disks - $£ 14.00-256$ Lingerie EMC Volume 133-5 Disks - £14.00-256 Star Trek EMC Volume 134 - 5 Disks - $£ 14.00$ - 256 Various 1 I EMC Volume 135 - 5 Disks - $£ 14.00$ - 256 Reptiles

# SPECIALISING IN THE PROMOTION OF DTP ON THE AMIGA P. <br> AND <br> WINNERS OF THE 1992 AMIGA SHOPPER TOP TYPEFACE AWARD 

## TUPE I FONTS

All EMC's Type 1 Fonts are compatible with Pagestream, The Publisher, final Copy2 rel2, Final Writer and Imagine 2.9+ EMC Vol. 4 - 5 Disks - $£ 14.00$ - 67 Type1's EMC Vol. 5 - 5 Disks - £14.00-63 Type1's EMC Vol. 6 -5 Disks - £14.00-83 Type1's EMC Vol. 7 - 5 Disks - $£ 14.00$ - 68 Type1's EMC Vol. 16-5 Disks - £14.00-76 Type1's EMC Vol. 17-5 Disks - £14.00-79 Type1's EMC Vol. 27-5 Disks - £14.00-56 Type1's EMC Vol. 29-5 Disks - $£ 14.00$ - 80 Type1's

## NEW TYPE I FONT UOLUMES

Converted, by EMC, from MAC PD Truetype format fonts. EMC Vol. 77-5 Disks - £16.50-78 Type1's EMC Vol. 78 - 5 Disks - $£ 16.50$ - 69 Type1's EMC Vol. 79 - 5 Disks - $£ 16.50$ - 84 Type1's EMC Vol. 80-5 Disks - £16.50-71 Type1's EMC Vol. 81-5 Disks - £16.50-106 Type1's

## C'G SCALABLE FONTS'

All EMC's CG Scalable fonts are compatible with all versions of PPage. PSetter2/3, WWorth, WB2/3, Scala Opalvision and DPaint 4.1+eIC
EMC Vol. 8 - 5 Disks - £16.50-61 CGFonts EMC Vol. 9 -5 Disks - £16.50-64 CGFonts EMC Vol. 10-5 Disks - £16.50-57 CGFonts EMC Vol. 23-5 Disks - $£ 16.50-58$ CGFonts EMC Vol. 24-5 Disks - £16.50-64 CGFonts EMC Vol. 25-5 Disks - £16.50-66 CGFonts EMC Vol. 26 - 5 Disks - £16.50-71 CGFonts EMC Vol. 30 - 5 Disks - $£ 16.50$ - 59 CGFonts EMC Vol. 31-5 Disks - £16.50-60 CGFonts

## NEW CG SCALABLE FONTS

These fonts originated as MAC Format Truetype Fonts. These volumes are now supplied, due to popular These volumes are now supplied, due to popular
demand, with Postscript downloadable fonts! EMC Vol. 82-5 Disks - £16.50-53 CGFonts EMC Vol. 83-5 Disks - £16.50-48 CGFonts EMC Vol. 84-5 Disks - $£ 16.50-46$ CGFonts EMC Vol. 85 - 5 Disks - $£ 16.50$ - 46 CGFonts EMC Vol. $86-5$ Disks - $£ 16.50-34$ CGFonts EMC Vol. 87-5 Disks - £16.50-38 CGFonts

## E(APSULATED POSTSCRIPT CLIPART



Suitable for Pagestream, PPage 4.0 and Final Writer. EMC Vol. 12-6 Disks - 116.50 - EPS Clipart Weddings, Houses, Office, Kids, Mil.Planes, Boats, Food EMC Vol. 13-6 Disks - 16.50 - EPS Clipart Buildings, Animals, Sport, Aircraft, Hols, Chets, People EMC Vol. 14 - 6 Disks - $£ 16.50$ - EPS Clipar
Houses, World, Music, BiPlanes, Males/Females etc..

## PICK 'N' MIX SERUITESS

We offer you not one...but TWO Pick 'N' Mix Services!
The first of these is a Pick ' $N$ ' Mix Font Service. We are the first to admit that it isn't an original idea, but we implement it properiyl' For example all CG Scalable
fonts can be supplied with postscript downloadable fonts (f required). Who else supplies them? The service is simplicity itself.. just send off for one of our FREE information packs for full details.
The second of our PNMM services is for Clipart. We believe this to be the first
service of its fype on ANY computer plattorm. To date. this senvice has already service of its type on ANY computer plattorm. To date, this service has aiready
proved to be extremely popular. So what is the Clipart PNM service? Well, basically if you are ever in need of HIGH QUALITY cippart on a particular subbect. this service could be for you. For exampie it you are in need of a disk fuif of howers, businoss peopie, medical equipment or even teddy bears. .just contact us and we will create a disk (or disks) tainor made to

## EMC C'OMPETITION \#I WINNER

## Congratulations to.

Mr. C. J. Patterson from Bedford VOU CAN NOW SELECT VOUR $£ 50.00$ WORTH OF EMC SOFTWARE! When asked why he purchased his software from EMC, he replied. "EMC provide a service and quality product that cannot be beaten COMPETITION \# 2 IS' NOW RUNNING

## SCANNING SERVICE

HAVE YOU EVER NEEDED SOME ARTWORK SCANNING?
ARE YOU SICK OF USING "CUT AND PASTE" METHODS TO GET YOUR ARTWORK ON PAPER? EVER WANTED TO SMARTEN UP YOUR VIDEO PRESENTATIONS WITH CUDEO BACKDROP? EVER WANIED TO SHARIEN UP YOUR VDEO PRESENTATIONS WITH CUSTOM GRAPHICS? We have offered this service, to customers who have asked, for over a year. During this time the our scanning service has proved to be very popular with everybody from amateur desktop publishers to professional video users. We can provide high quality scans, in any format and resolution from your original artwork or photos up to A4 in size,
50 DPI TO 600 DPI - IN ANY FORMAT FROM MONOCHROME TO 24BIT We provide finished scans, on disk, in standard IFF file formats, but if required we can also supply artwork in most PC formats (PCX, Tiff, Gif etc) on MS-Dos high density disks.

FOR MORE DETAILS...GIVE US A RING!

## THE MAGAZINES HAVE SAID.

Amiga Computing in issue 52 said.
E.M.C. are the FIRST and FOREMOST Font distributors in the UK" they then placed us at...No. 1 in the TOP 10 of the Amiga hardware/software chart
Ian Wrigley from Amiga Shopper in issue 16 said.
...I must say that I'm quite impressed..."
Amiga Format in issue 36 said.
..E.M.C. have an enormous amount of expertise in the tricky area of
fonts and can provide professional help and advice to customers"
Amiga Format Special Edition said.
the best value rescalable fonts available anywhere...there's no cheaper way of getting quality fonts"
CUAmiga in the issue of September '92 said..
you couldn't do much better than taking a look through the sets offered by E.M.C.
Amiga Shopper January 1992 gave Safari Fonts and EMC.
"The Top Desktop Publishing Typeface Award For 1992"
Pat McDonald from Amiga Format in issue January 1992 said.
"The best person to talk to about fonts, in the UK at any rate is Errol at E.M.C
Amiga Mart November 1992 said
'EMC's emergence into the cut-throat retail area has come none too soon, their service and technical backup is second to none."

EMC has no need to offer you any sort of font guarantees
Our competitors claim to have the largest font collections in the UK...
OUR FONTS WORK!
YEAH RIGHTI (Maybe they should check their facts before making such claimsl)
AND...BELIEVE IT OR NOT...WE DON'T HAVE TO WAIT FOR EMC TO
RELEASE MORE VOLUMES BEFORE WE CAN EXPAND OUR LIBRARYI

## E.M.COMPUTERGRAPHIC

Font, Clipart and Software suppliers to over 6,500 happy customers! Our so called competitors claim to offer outstanding technical support and service. If this is true why do the following companies and institutions prefer to buy their DTP software from us? MICROPACE UK. MERIDIAN DISTRIBUTION. CENTRAL TELEVISION, MERIDIAN SOFTWARE, THE UNIVERSITY OFLONDON. ALPHABET PUBLISHING. DIGITAL MULTIMEDIA MERVICES UK THE IMPERIAL. WAR MUSEUM AND MAJORIVISION INTERNATIONAL
WE ASK YOU...CAN ALL THESE CUSTOMERS BE WRONG?
EMC HAS RECEIVED MORE EDITORIALS, REVIEWS AND PROMOTION IN THE UK AMIGA PRESS THAN ALL IT'S COMPETITORS PUT TOGETHER...HAVE THEY EVER HAD ANY? DON'T THESE FACTS TELL YOU SOMETHING?
Hove fonls, . Hove Clifail, and unieralled Tech Prupioil!

## IVI COMPUTER SAFARI Desktop Publishing Typefaces

E.M.C. are the exclusive UK and European distributors for the HIGHLY ACCLAIMED commercial Computer Safari range of DTP Typefaces. Safari fonts are of exceptional quality, contain FULL character sets and have been highly praised in the UK Amiga press.
For those of you that have already purchased, or have information on the Safari fonts, we would like to inform you that Safari compilation packs are now available.
Full details of the Safari DTP Typeface collection are included in the EMC information pack.

To get a copy of the EMC information pack, which includes full details of our PD and S/w font and clipart library, our AGA and ECS Image Volumes and Computer Safari Fonts SEND US AN A5 SAE WITH 25P POSTAGE OR A 25P STAMP AND YOUR ADDRESS The information pack details ALL the fonts we have on offer along with full printouts, a font

Einhey said it couldn't be done, but Utilities Unlimited's Emplant card brought colour Macintosh emulation to the Amiga in late 1992. Because Amiga users were so amazed to be able to run top-of-the-line Macintosh products such as Adobe Photoshop and Quark XPress on their computers, they were willing to overlook Emplant's initial quirks and limitations.

Emplant's developer, Jim Drew, surfed the on-line networks providing support for the device and taking in suggestions and complaints.

Drew promised not only to enhance and improve the Macintosh emulation, but also to eventually release emulation modules for devices ranging from the Apple and IBM-PC to the Super Nintendo and Sega Genesis.

More than a year later, has Emplant II delivered on its promises? Well, the answers are for the most part "yes", with an occasional "not yet, but we're working hard on it".

Emplant's Macintosh emulation has matured to the point where an a properly equipped Amiga can indeed be a "better Mac than a Mac". The promised additional emulation modules have yet to surface as of press time, however.

But UU's Drew assured me at press time that new emulation modules are just around the comer, and sent me a beta version of the Emplant Apple II emulator as proof.

Emplant is a Zorro II expansion card that fits in the Amiga 1500, 2000, 3000, and 4000. It's available in four configurations: The Basic Emplant, which simply includes the ROM sockets and chips needed to support Emplant's various emulation modules; the Deluxe Emplant, which adds two Appletalk-compatible RS-422 serial ports and a SCSI interface; and models with just SCSI or just serial support. All of the models can be expanded to the Deluxe specifi-


WIth an A4000, Emplant can emulatethe expensive Quadra model


Choosing Amiga screen modes from the Macintosh desktop
cation. Emplant currently ships with Macintosh emulation software, at v3.8 as of this writing. Apple II emulation is just around the corner, and may be available by the time you read this. And UU are hard at work on IBM 486 emulation for release later this year.

## DEMEROPMEMT

Sega Genesis and Super Nintendo emulation modules are under development by a European company and will be available separately.

UU have also greatly optimised the speed of the emulation. A 68040 -equipped Amiga will perform very similarly to a real Macintosh equipped with the samespeed processor.

The Speedometer benchmark shows the A4000/040 is similar to the Mac Quadra

700 in almost all benchmarks except for video. However, remember that while the machine is matching an equivalent Macintosh in speed ratings, it's running Amiga software at the same time!

Hard drive speed is now about five times faster than in the original emulation, and is close to what you'll get from a
real Mac.
Video is another area that has great improvement. The early version Emplant constantly reminded you you weren't using a real Macint because screen updates were relati slow when running in colour modes.

Now the emulation manages abo

> Macintosh emulation on the Amiga is becoming cheaper, more powerful and more popular. Denny Atkin looks at Emplant II, the latest upgrade of Utilities Unlimited's acclaimed emulato


## Putting on your Mac

Early versions of Emplant required a minimum 68030 microprocessor for Macintosh emulation. Recent releases no longer require an MMU, so they'll work on a 68EC030 microprocessor, making the product usable on the A4000/030.

You'll want at least 4 Mb of Fast RAM for Macintosh emulation, but more is preferable. And a hard drive is a must on the Macintosh, so it's a must here as well.

For Mac emulation, you'll also need the
 Macintosh operating system. This includes a 256 k Macintosh ROM chip from a Mac or Ilcx, and the Macintosh System 7.1 operating system disks. You can purchase a ROM chip from a number of electronics suppliers, or if you own a proper Macintosh you
 use the ROMINFO program to copy the RO a disk file without removing them from your

The newest release of the Macintosh tion software is "32-bit clean" This mea emulates the newest Macintosh models allows you to address more than 8 Mb of R 2 the Macintosh side.

Indeed, until 32-bit clean support was you were hard-pressed to get Emplant to b with more than 4 Mb available for the Mac

## Apple Who?

ough the IBM 486 emulation is still a few months away, as Unlimited are ready to unleash a second emulation - of dassic Apple II computer.
is isn't as strange as it sounds, as over here in the States Apple II was the computer of choice for school systems aghout the 1980s (it was our equivalent of the Beeb).
Wany schools still use these machines, so an emulator will is young students to practice with their Apple educational nyams at home on the Amiga. I tested a nearly final beta verIn of the Apple II emulation and was quite impressed. You'll access to an original Apple II machine to dump its ROMs e Amiga; from there, it's easier to use than a real Apple.
Because there's no easy way to read Apple disks on an Erpa, though, you'll need to transfer the files you want to use nodem. The emulation will load Apple disk image files (simi3 D DMS archives on the Amiga) and boot them just like a real mapy. You can find plenty of files to try out on Apple BBS sys-
tems. The emulation is quite speedy, providing full Apple II performance even on a stock A1200. That's the most impressive thing, since previous Amiga emulation modules of 6502 -based computers have been pokey slow.

Although Apple graphics are quite nasty to look at, the emulator does give you a way to run some classics such as Galaxian and Wizardry on your Amiga. Still, this emulation will likely be of interest primarily to Amigans who started out as Apple users, or whose kids use Apples at school.

The emulation not only multitasks with Amiga software, but with the Mac emulation as well - memory permitting, you can run one instance of each Emplant emulation simultaneously with all the others

Since UU now have a working emulator of a 6502-based computer, C64/128 and Atari 400/800 emulation modules areplanned too, UU plan to make all of these available free of charge.
$r$ of the update speed of a real Mac nimen running in 256 colours on an AGA ine, or 16 colours on an ECS Amiga. sisn't perfect, but is plenty fast th for games such as Falcon MC and strom. If you're serious about atosh emulation, though, and you to use high-powered Macintosh p-editing software such as shop, you'll want to invest in a lics card for your Amiga.
=plant now supports the Retina, Iso II, Rainbow III, Merlin, Piccolo, trum, and Visiona boards. Depending e board, Emplant supports 24 -bit rand resolutions up to $1,600 \times 1,200$ Th a fast board like the Rainbow
you can expect graphics just as fast as those of a real Macintosh. If you don't need 24 -bit colour, though, you're likely to find that the AGA graphics are quite usable; using the Super72 mode you can run the emulation in $832 \times 624$ resolution in 256 colours.

## SOUND

Emplant is no longer mute - the latest releases support full stereo Macintosh sound, and do a good job of it. Sounds play smoothly from Macintosh games such as SimCity 2000.

There are a number of options for disk storage. The easiest way to get up and running is to buy an Emplant with the SCSI interface and simply plug a

## The latest releases supoort full stereo Macintosh sound, and do a good job of it, too

Macintosh SCSI drive into the back of the card. Mac SCSI drives generally come with the System 7 software already installed, so it's a simple matter of plug-and-go.

With Amiga drives you have three options: You can format an entire drive as a Macintosh drive, choose a partition and format it for the Mac, or use the Hardfile support.
Hardfile support is similar to the virtual drives used by Commodore's Bridgeboard - a large file is created on an Amiga hard drive partition that looks to the Macintosh like a hard drive.
This isn't as fast as dedicating a real partition to the Macintosh emulation, but it has the advantage of being easy to set up and it can be backed up with a standard Amiga hard drive backup program.

Emplant's SCSI adaptor fully emulates a real Macintosh SCSI port, so you can attach nearly any Mac SCSI expansion device there. I've run both a Bernoulli removable hard disk and an Apple CD300 double-spin CD-ROM drive on the port with no problems, even running Macintosh CD-ROM games.

Putting a CD-ROM on the Emplant's SCSI port has the added advantage of allowing you to use the drive on both the Amiga and Mac sides of the computer.

Floppy support is a bit more problematic. When Emplant first shipped, UU offered a device called Sybil that allowed the Amiga to read 800 k Macintosh format disks. However, the device never would reliably write Mac disks (Macintosh 800k

## The shape of things to come

As this article was going to press, UU were hard at work on a major revision, Emplant 4.0, which should be available by the time you read this.

Utilities Unlimited's Jim Drew let me in on what was coming up in this revision; if all of these features don't make it into 4.0 , they'll be in releases that follow soon after.

After this wish-list is implemented, Drew will put aside the Mac emulation module and dive into finishing the IBM 486 emulation.

First and foremost on the upgrade list is support for using the Amiga's serial and parallel ports from the Macintosh side. The emulation will be able to pass data transparently back and forth to either port.
The exciting thing, though, will be a new Chooser extension that will let you print directly from your Macintosh applications to a Preferences printer driver - no more hunting down a Macintosh-side driver for the printer of your choice!

The current file-transfer mechanism will be replaced by a new MultiFS filesystem driver. Similar to CrossDOS in concept, this driver will allow both the Amiga and Mac sides to access any supported file format, so you could, for instance, write data to a Macintosh high-density disk from an Amiga program.

## CONVERTING

This driver will feature plug-in translation modules for converting between popular Amiga and Macintosh file formats - everything from converting plain Ascii text to translating various graphics formats as they're copied.
Support for virtual memory is on the wish list, as is support for multiple monitors. With this capability, you could, for instance, display a 24 -bit Macintosh picture on your Picasso board full-screen while keeping all your toolboxes and menus on a faster 16 colour Amiga screen.
Finally, there's the long-awaited PCMCIA Emplant for the Amiga 1200. This will be a small box that has all the features of the Zorro II card - dual serial and SCSI options included - except it won't have ROM sockets.
A parallel port ROM reader will be available for transferring your Mac ROMs to the A1200 if you need it. It will sell for the same price as the original Emplant.
Many A1200 owners will be happy just to have a PCMCIA SCSI option, never mind the bonus of the emulation. Although the PCMCIA Emplant will function with a stock A1200, you'll be happier with the performance of the Mac emulation if you add an accelerator board.

The design of this board has been completed, but UU has been unable to procure enough PCMCIA connectors to go into production due to industry shortages. The company hopes to have it available this Spring.
$>$
disk drives actually vary their speed as they spin, so standard Amiga disk drives can't read disks created by them).
Sybil is no longer available, so currently the only options for reading 800 k disks are to connect an A-Max or Mac-2DOS cartridge and a real Mac disk drive.

## NIBBLE

However, UU soon plan to release a small board that will plug into the back of an Amiga disk drive that will not only allow Emplant to read and write 800 k Mac disks, but will also function as a nibble copier.
Emplant will directly read disks created by the A-Max and Spectre Mac emulators, though, so if you're upgrading from one of those emulators you're in luck.

On a happier note, Emplant will directly read and write Macintosh 1.44 Mb high-density disks if you have a high-density disk drive on your Amiga; it currently has trouble writing to disks if you're in 256 -colour mode, but Drew said this problem should be cured before this article sees print.

Since all current Macs include high-


From speed tests in which the system is stretched to its Himits
density disk drives, more and more Mac software is coming on these disks.

The two RS-422 serial ports will allow you to attach a modem, printer, or AppleTalk network. These work very well, except that some A4000 users with early-revision Buster chips in their systems may find problems with the AppleTalk support.
If you plan to hook an A4000/Emplant combo into a Mac network, it might be a
good idea to have your local service centre update your A4000's Buster chip to the latest revision.
Transferring files between the Macintosh and Amiga sides of your computer is now possible thanks to the recently added file copy functions. You can use a file requester to move any file between the Amiga and Macintosh sides of things.
Translation is presently limited to the

... to the most basic Mac software

## How compatible is it?

So how well does Emplant perform as a Macintosh? Very. As mentioned earlier, processing performance is very similar to a real Macintosh running the same processor, but with the added benefit of being able to run Amiga software at the same time.
Compatibility is superb. I tested a dozen major productivity applications such as Photoshop, Quark XPress, Fractal Design Painter, and Quicken and they all worked without a hitch. The only problem I had was an occasional crash with Microsoft Word, which UU are looking into. Word is notoriously flaky, even on some real Macs.

A testament to the emulator's compatibility is its ability to run games flawlessly. I ran Falcon MC, Star Trek: 25th Anniversary, SimCity 2000, Spectre Supreme, and Maelstrom (the best Asteroids game ever designed for a computer) on my Emplant system without a
hitch.

Even though 256 -colour AGA video only rates about 0.62 the speed of a real Macintosh II on the Speedometer benchmark, the system provided smooth performance for all these games.

Note that some older Macintosh programs may have problems when running in 32 -bit clean mode or with the 68040 copyback caches active.

This isn't endemic to Emplant, but is simply a problem with poorly written Mac software that owners of real Macs face as well - its similar to the situation Amiga programs that won't work right on the A1200 or A4000. Such problems can be worked around by turning off the caches or 32 -bit support, just like with a real Macintosh.

Utilities Unlimited have been very good about fixing any problems with the emulation when users report a program that doesn't work properly - the company have even

If Emplant can run Mac games, what can't it do?
expressed plans to patch some popular but buggy Mac software to run properly in 32 -bit clean mode.

Macintosh applications co-exist peacefully with Amiga programs nowadays; early versions of Emplant would sometimes crash when you tried to use comms software while running the Mac emulation, but like most of the other teething pains that problem has been cured.

Having a Mac and Amiga in the same box is very advantageous. For instance, you could take a 24 -bit TIFF graphics file, touch it up in Adobe Photoshop on the Mac side, then use the file transfer mechanism to move it over to the Amiga side for further processing with Art Department Professional.

The final result could then be moved back to the Mac
automatic recognition of MacBinat downloaded files, but a future upda promises to add sophisticated file-c version capabilities, such as the ability convert Amiga Anim8-format animati to QuickTime format as they're copied

and inserted into a desktop publishiry program. The Macintosh is a much mot expensive machine to equip for vides work than the Amiga. With Emplant, ya can use Mac software to touch up vider images, then move them to the Amici side for output - the best of both worlds

Emplant's add-on ports are usetd not only for the Mac emulation, but of the Amiga side as well. The packap includes empscsi.device and empser.device which let you utilise the SCSI and serial ports under AmigaDOS

The SCSI support is a real boon ll A4000 owners, allowing them to eash connect CD-ROM drives or move SCS hard drives over from older Amiga sys tems. The controller isn't as fast as hot Zorro III SCSI-II boards, but the again for the price of one of those ye can buy an Emplant complete with Mar ROMs.

Setting up a SCSI device on the Amiga side isn't an easy operation though. The current empscsi.device doesn't support aut boot or auto-mounting, so you'll need to use something lil the freely distributable SCSImounter program to ma AmigaDOS recognise the drive; it can be partitioned a formatted using HDToolBox.

Since the board doesn't auto-boot on the Amiga sid (the Mac side does), it works best as an add-on controle for systems like the A4000. Auto-boot capability may cons later - the Emplant board has provisions for a small bat tery-backed block of RAM that can hold auto-boot hat drive code.

The serial ports are fully functional with any Amiz comms software that allows you to specify a replacemer for serial.device. If you need a couple of extra ports for us with a bulletin board system or for basic serial networki Emplant will do the job.

## YOUR IMAGINATION IS

## OPALVISION VIDEO

DPAL Vision State of The Art Mainboard
traxing Opal vision 24 - bit graphics board and software suite has been updated and is now -

Avare suite now includes:
Paint V2.0. Now includes full magic wand implementation and Alpha Channel that allows eompositing with selectable levels on a pixel by pixel basis. The Chrominance effect allows Var real time control of image contrast, brilliance and re-mapping of colours.

Opal Vision Video Processor
-rimate V2.0- Offering real time play back of animations created by ray tracers, landscape
ors, morphers and all other 24 - bit software.
Hotkey V2.0 - Display Opal vision graphics anytime with key combinations. - imply, it's a spectacular product". Amiga Computing. Wibcedly the finest, most professional paint program to arrive on the Amiga" - Amiga Tisional quality at this price can't be turned away" - Amiga User International. "rdict was unanimous - brilliant". - Amiga Shopper.

## OpALVISION VIDEO SUITE

-oer packed video and audio mixing, switching and transcoding device connects directly to the 5 hrocessor. This 19 - inch rack mountable unit is so advanced that it has it's own internal comt 7 ind every aspect is software controlled for precisely timed and accurate functionality. The wite includes a wealth of inputs and outputs. There are 9 video and 10 audio inputs available, P-24-bit frame store. Professional quality video inputs and outputs are available simultaneous 1 ICB or $\mathrm{Y} / \mathrm{R}-\mathrm{B} / \mathrm{B}-\mathrm{Y}$. Composite and S - Video, Choose and 2 sources from these inputs, assign zaidon or special effect and then trigger it manually or automatically. All of the transitions and - provided by the OpalVision Video Processor are available for use by the Video Suite. the linmoparency key (Alpha channel and transparency effects) can be taken from the Video -ror andfor external video source andfor output to another production switcher. This allows "rerency control between video sources on a pixel by pixel basis. The 10 Audio inputs (five
(-irs) are fully software sequenced with smooth fades and full, 5 band frequency equalization.
er Price available to registerd OpalVision owners.
6659.99

It's a high quality real time 24 - bit frame grabber which doesn't require a time base converter, it's a professional quality genlocker with croma and Luma keying, the 256 level linear transparency key allows the definition of transparency between two live video sources on a pixel by pixel basis for smooth vignettes, antialiased text and super smooth effects. Plug this card into your OpalVision main board and add a wealth of additional features and functionality.


Included with every Video Processor, the Opal vision Roaster chip provides an endless number of user definable Digital Video Effects. Take any two video sources (or an Amiga or Opal vision generated graphic). Flip it. Scale it. Rotate it on the $X$ or $Y$ axis. Move it along a path. Zoom it. Move out. You have complete control. Build your own custom library of useful wipes and effects and give your videos a unitque style. OpalVision is the only video system in its price class with this powerful digital video engine. You've got to see it to believe it:
*Voucher Price available to registerd OpalVision owners. Return voucher with your order.

## ombo Audio Visual Products

Megamix. Low cost, hi spec digital effects cartridge plugs into the printer port of the Amiga. Allows stereo sampling from almost any musical source. INDI PRICE 227.99

Take Two. Animation package ©ut for computer artists and enthusiasts
ages. As used in Rolf Harris Cartoon INDI PRICE $\mathbf{~} 34.99$

Vidi Amiga 12. The ultimate low cost colour digitiser for the Amiga. "the best value full colour digitiser on the market". - Amiga Format. INDI PRICE 669.99
Rombo Vidi Amiga 12 (RT) Based on the Vidi Amiga 12. This all new version offers real
colour capture from any video source. Full AGA chipset ort as standard for all A1200/A4000.
ort as standard for
PRICE 2129.99


Rombo Vidi Amiga 24 (RT) For the more serious user, this 24 - bit version will again capture from any video source with true photo realistic images! A staggering 16.8 million colours can be utilised with incredible results. Full AGA chipset support. INDI PRICE 6219.99

Roctec Rocgen Plus. As above but with extra features such as tinting and signal inversion. Allows for real time editing of graphics. Compatible with all Amigas. INDI PRICE 6127.99

Roctec Rockey.
The ultimate accessory for Amiga / Video fans. Separate RGB controls to croma key on any colour. INDI PRICE $£ 199.99$

## \section*{Special effects Packages} <br> Morph Plus SPECIAL EFFECTS PACKAGES

You ve seen Michael Jackson's video, you've seen the television adverts using the latest techniques in morphing, now you can create the same results but at a fraction of the cost, Morph Pus is the latest and the ultimate in this technology. Whether you area professionDeluxe Paint IV AGA
Deluke Paint IV AGA Combines powerful tools with an Intuitive interface so both professionals and besinners Combines powerful toois with an Intuitive interface so both professionals and beginners tike can get superb resuiks quicly. New enhaint and animate in 4696 colours in the Amiga Ham (hold and modify) mode. New animation fatures also include metamorphosis allowing you to change one image into anoth-
er. You determine the number of frames and DPaint yoes the rest INDI PRICE $f 64.99$ Art Department Professional The ultimate in image processing providing many key benefits to AMiga users working with pictures. With ADPro you can read, write and convert between most common image file formats with unmatched flexibility. Full support for JPEG images makes it possible to main thin an image library in full 24 - bit colour without needing massive hard drive storage
Typically a 600 Kb image can be compressed down to 40 Kb bII INDI PRICE $\mathrm{C} \mid 32.99$

Real 3D Yz
Is a full featured 3D animation modeling and rendering program. With Real 3DV2 you can produce high guality images and animations of three dimensional models with an astounding level of realism. Imagine creating an animation that shows a handful of balls bounce down a flight of stairs to the bottom. Gravity, collision, deflection and the elasticity of the balls are all automatically calculated by the program. INDI PRICE \&359.99

## BILLIANCE

Iant "Graphics Paint Package " In terms of design and specifications Digital Creations really seem to have
everything right. Effectiveness..." $\mathbf{9 9 \%}$.
aly can't fault the end results" - CU Amiga Review
| PRICE $£ 99.99$ (149.79

## WRITER

ort powerful word processor to grace the
90\% - CU Amiga
PRICE 699.99
6129.94

## Copy 2

ut as close to being a desktop publisher as a word
nsor dare go" - CU Amiga
PRICE 662.99 Le9.9!

## AMIGA SOFTWARE BONANZA

| Jurassic Park | c25.94 | 99 |
| :---: | :---: | :---: |
| Mortal Kombat | (29.94 | 619.99 |
| Cannon Fodder | \%20.0) | E19.99 |
| Settlers | Ch4 | C22.99 |
| Simon the Sorcerer | (2.0) | ¢22.99 |
| Premier Manager 2 | 2540 | 5.9 |
| Cool Spot | 2 | -19.99 |
| Micro Machines | (23.85 | \%16.99 |
| Zool 2 | 2 | ¢16.99 |
| Alien Breed 2 | $\underline{6} 6$ | ¢ 17.49 |

AC0494
INDI DIRECT MAIL
I RINGWAY INDUSTRIAL
ESTATE, EASTERN AVENUE, LICHFIELD STAFFS. WSI3 TSF
 Please send I)
2)...


I enclose chequel PO for

## Great opportunities... <br> to make the mos of our recent CoverDisks with some special offe

 buy the manual and digitiser to make sure you use this month's CoverDisk to its full potential
 takes you through setting up equipment and provides tutorials covering the most important points of the Vidi Amiga (12) RT package. There is also a comprehensive reference section, a glossary and a trouble-shooting section.

## Design Works



NEW HORIZONS

Advanced features are explaisal followed by an extensive refer section. To finish off this reall ful book there is a neat sectiot time-saving short -cuts.


To order either Vidi Amiga (12) RT or the Design Works manual please send a form below to Cover Disk Offer, Europress Enterprise Ltd, Euref House, Adlington Park, Macclesfield SK10 4NP, or telephone 0625878888 between 9am and 1pm or fax 0625850652.
Overseas readers will be charged carriage at cost. Please telephone to find out the cost of carriage to your country.

## Vidl Amiga order form

## Please send me...

믈the Vidi Amiga (12) RT full package including user guide and Digitiser at $£ 139$ (incl VAT and UK carriage).
Please deliver my goods to:
Name (Mr/Mrs/Miss/Ms)

## Design Works order form

## Please send me...

$\square$ the DesignWorks Manual at $£ 14.95$ (incl VAT and UK carriage).

Postcode $\qquad$ Daytime phone $\qquad$

I wish to pay by:Cheque / postal order payable to Rombo Productions Ltd Credit card

Card No $\qquad$ $\square 1 \mid$ |  | $\square$ |  |  |  |
| :--- | :--- | :--- | :--- | :--- |

## Expiry Date

## Allow 28 days for delivery

$\square$ Tick this box if you do not wish to receive promotional material from other companies

Please deliver my goods to:
Name (Mr/Mrs/Miss/Ms)
Address

Postcode $\qquad$ Daytime phone

## I wish to pay by:

$\square$ Cheque / postal order payable to Europress Enterprise Ltd
Credit card
Card No
Expiry Date

## Allow 28 days for delivery

$\square$ Tick this box if you do not wish to receive promotional material from other companies




Sock, horror surprise - this kid can do it all...

Even after several years in the business I'm still amazed by the occasional release which sets standards for creativity and artist Fortunity.
With the arrival of Humanoid's I'm once reassured that there is indeed more to Amiga than just profit, play and occaal productivity.
As you can see, Humanoid is yet another - on to the Amiga's ever growing ray trac5 nepertoire - which in this case provides Eatire family of beautifully sculpted fig-- for both Lightwave and Imagine.

Now before knuckling down to the niew I'd like to explain why I'm so gressed with what appears to be just ther collection of 3D objects. Firstly tres's the obvious quality of the figures and morted hand and facial gestures.
However modelling skill is only the prning as each model has been designed mimate effortlessly between the various mal hand and body poses.
This is seen at its best courtesy of the varirunning and walking scenes which come apart of the collection. The attention to
zuail and overall quality are quite simply athtaking.

Alas due to the limitations of print, it's and to appreciate just how good these figreally are. Even these impressive stills
zin comparison when you see them, runwalking, speaking and dare I say even xing.
After such a glowing introduction you nay be wondering exactly what makes the manoid collection so human. Basically the $x y$ to the system is the ability of both ightwave and Imagine to build hierarchical tres and morph between them. Thanks to te power of both techniques Tim Wilson has a last banished that ubiquitous mechanical hed that so often dogs 3D modelling.

Thanks to the hierarchical design, basic ony parts can be appended together and absequently animated via key frames to produce basic articulation for running, walkng bending and so on.
However what about expression and even peech? Hierarchical techniques are useless


## Get ready to be amazed as

## Paul Austin explores Humanoid, the next generation in 3D modelling

and as a consequence it's here where morphing really comes into its own.

Thanks to a mixture of careful design and consummate modelling skill, Tim has created a whole series of expressions and phonemes for each model which courtesy of their identical points can be morphed during animation.

As a result, making a model speak is simply a matter of morphing from one phoneme head to the next - at which point the model will mouth the phonetic elements which make up the words you require. Tim has even included a section in the excellent 50 -page manual diagramming which phonemes to use for specific letters and sounds.

The same applies to emotions, depending on your needs your character could be angry, sad, happy or whatever. All you need do is tell the software at which point, and how quickly, to morph between the various emotional states.

Using the same principles, hands can be animated between a variety of positions enabling your characters to point at an

## Registration special

Athough the Complete collection of models include a man, a strong man and a woman all with their own heads, hands and motion paths, you also receive a child.

However if you want your new family to experience parenthood you must first send off your registration card in order to receive the sprog. Although a blatant attempt to generate an accessible user base, there are other advantages.

Leaving this obvious marketing ploy aside, registration will ensure up-to-the-minute information on new products. For example Crestline plan to release a new collection of seamless human figures and animal models later this year which will take advantage of bones and skeletal morphing within Imagine 3.0.
object, pick it up, shake hands, wave, grasp something, grip it tightly and even form a fist and destroy it.

As if that wasn't enough. Tim has also added the finishing touch by ensuring that the figures are all made up of the same number of points and polygons. As a result it's just as easy to morph between the man, woman and child as it is to alter facial expressions.

This attention to detail is even more impressive when you consider that all the figures are hand built and not simply sucked into the machine via a 3D digitiser.

Basically Tim Wilson's new collection is spectacular. If and when 3D art receives the artistic credit it so richly deserves Tim Wilson's cre ations will no doubt be considered classics.

If you can afford it and have the necessary 10.5 Mb and 18.7 Mb of hard disk space for the Lightwave or Imagine versions respectively, plus the recommended 030 or 040 CPU it's an investment you'll never regret.

Unfortunately Crestline do not yet have a European distributor so I'm afraid you'll have to entrust a postal order to the US mail. However keep a close eye on the news pages as I'm certain some entrepreneurial type will soon add it to their portfolio.

Product: Humanoid Price: £135 (approx) Supplier: Crestline Software Tel: 01019093381786

Address:<br>Crestline Software P.O. Box 4691 Crestline CA, 92325<br>USA


-32 Amiga 1200 Packs
abo20 Full power

- On site warranty
- Two Python joysticks
- Free Paint package software
- Mouse mat
- A1200 Standalone
- A1200 with 20MB
- A1200 with 40MB
- A1200 with 60MB
- A1200 with 80 MB
- A1200 with 120 MB
- A1200 with 200 MB
£274

- Full instructions and cables where necessary
- All drives supplied with formatting
instructions and software
- Free fitting available
- 20MB HD Upgrade Kit - 40MB HD Upgrade Kit - 60MB HD Upgrade Kit - 80MB HD Upgrade Kit - 120MB HD Upgrade Kit 200MB HD Upgrade Kit
£85
ع135
£135
£154
£169
$£ 199$
£329


## A1200/A600 Memory Upgrades

- A1200 PC 1204 4MB + clock connen $£ 198$ - ProRam 2 MB PCM-CIA A600/A1200 £118 - ProRam 4MB PCM-CIA A600/A1200 £172
- ProRam 1MB A600 £34
- A1200 Real Time Clock


High Quality GVP Hard Drives

|  | $\mathbf{A 5 0 0}$ | $\mathbf{A 1 5 0 0}$ |
| :--- | ---: | ---: |
| $120 M B$ | $\mathbf{£ 4 2 9}$ | $\mathbf{£ 3 8 2}$ |
| $500 M B$ | $\mathbf{£ 9 8 9}$ | $\mathbf{£ 9 4 2}$ |
| $1 G B$ | $\mathbf{£ 1 1 8 9}$ | $\mathbf{£ 1 1 4 2}$ |

Internal Hard Drives for A500

- Easy to install - Full instructions
- ICD technology
- Pro internal 20MB hard drive $£ 155$ - Pro internal 40 MB hard drive $£ 245$ - Pro internal 80MB hard drive $£ 295$


## - Pro internal 120 MB hard drive

- Pro internal 200MB hard drive


Amiga 4000 Packs

- AGA Chip set
- 68030/40 processor
- Co-pro option
- 2MB/4MB RAM
- A4000 030 with 80 MB HD \& 2 MB $£ 898$ - A4000 030 with 80MB HD \& 4MB £995 - A4000 030 with 120 MB HD \& 4MB £1065 - A4000 040 with 120 MB HD \& 6MB £1998

A1200 Dynamite Pack

- Simply add to pack price CD32

- Ergonomically sound
- Facilitates up to three external floppy drives
- Made in the UK
- Strong and robust
- Aesthetically pleasing
- Keep your desk neat and tidy
- Supplied complete and assembled with free mouse mat
- A500 Workstation
- A600 Workstation
- A1200 Workstation
£36
- Workstation Coverall dust covers
£5


Scanners


- Allows image processing in a useful and
unique fashion
- Comes complete with
operation manual
- One of the fastest growing applications
for home and professional users
- High specification coupled with cost effective pricing
- Power Handling Scanner
- 64 greyscales 100-400 DPI
- Thru'port to printer
- Fully compatable with Delux Paint 4, etc - Advanced software
- Power Hand Scanner v3.0
$£ 96$

SVGA / Multisync Monitors


- $14^{\prime \prime} / 20^{\text {" }}$ Super high resolution colour dispis - Professional IBM compatibility
- Complete with cable
- Full UK warranty
- Tilt \& swivel stand
- A1200 SVGA Monitor (Displays high productivity modes)
f228
- A1200 SVGA+ Monitor (Medium resolution, displays all modes high and low) $£ \mathbf{2 6 9}$ - A1200 SVGA+ Monitor (High resolution, displays all modes)
£364
- A1200 SVGA plus 20" Monitor (Displad all modes ideal for DTP, CAD etc.) $\quad \mathbf{£ 1 0 4 4}$


# HINICAL <br> EXCE 



- Pro Agnus 2MB Amiga 500 and A1500/2000 * Designed and built in England - Supplied with 8375 Obese Agnus - Includes 2 Mb Memory on board in the form of low power Zips • Allows the processing of elaborate animation and sound sampling $\bullet$ Provides the same max. chipmemory as the A3000/A600 \&500+ - Increases addressable memory space from 9 MB to 10 MB - Complete with full instructions and flying leads • British made
- Pro Agnus 2MB
£139
(Free fitting available - Phone for details)


A500 Memory Expansions A500 Pro-RAM 0.5 Meg. Upgrade

- Allows 1 MB software to run
- Chip memory compatible
- British made
- Without clock
- With clock

A601 for A600
A500 Pro-RAM 1.5 Meg Upgrade

- Gives a full $2 M B$ of memory $\mathbf{£ 7 4}$ A500+ 1MB Meg Upgrade $£ 29.95$


- Allows the addition of peripherals without damage to computer or power supply
- Why risk damaging your expensive kit when one simple investment will ensure total peace of mind now and for the
future
- Switch mode design
- Full crow bar projection
- British made
- A600 Power supply unit
- A500 Power supply unit
- A590 Power supply unit
- A1200 Power supply unit
- A2000 Power supply unit

Cumana 3.5" External Drive


- High Quality
- Renowned and proven reliability
- Top notch specification
- Anti-click
- Long moulded cable
- Slimline design
- High impact plastic
- Cumana external drive
- Cumana external drive
+100 capacity disk box
- Cumana external drive
+100 disk box +20 blank disks - A500/A500+

Internal replacement disk drive
$£ 46$

- High quality premium range of Amiga printers
- Two year manufacturers warranty
- Complete with cable to Amiga 500
- Citizen registered for Dealer plus service
-Swift $1200+$
$£ 129$
- SWift $1200+$ + 19 pin. 80 column, 144 cps craft, 30 NLO $4 K$ DB Buifer
- Swift 90 Colour
ur
$£ 168$
- Swift 200 E186

124pin. 80 column
216 cps

- Swift 240 Colour
(240in 80 col Colour $\mathbf{£ 2 5 9}$

- Swift Pro Jet
- SV0 column, 50 notze print, 360 cps draft, 120 LQ , HP

Chips and Spares


- WTS have sole distribution rights from Americas biggest Commodore chip distributor
- Workbench 2.04 Kit
$\mathbf{£ 7 8}$
$\mathbf{£ 2 4}$
- Kickstart 20.4 £26
- Kickstart 1.3
- Kickstart ROM Swapper $£ 18$
- Fatter Agnus 8372
- Obese Agnus 8375
- High Res Denise $£ 49$ $\mathbf{£ 5 4}$
- $1 \mathrm{MB} \times 9$ Simms (3 chip)
£29
- $1 \mathrm{MB} \times 4$ Zips
£29
- 8520 CIA
£14
$£ 13$


## SALES HOTLINE 0582491949 (6 LINES), O480 471117 (24HR), FAX ON 0582505900

Credit Card ordering by phone is easy. Simply phone our sales hotline quoting your credit card number., expiry date, name and address and the products you wish to order and we'll do the rest. Alternatively write the above details on your letter when ordering by post.

When ordering by post in cheque form please write your cheque card guarantee number on the reverse of the cheque and send along with your order. Postal Orders are also accepted.

NO DELIVERY CHARGES TO UK MAINLAND. MINIMUM ORDER AMOUNT £15.00.
Should you wish your order to be sent by courier service please add $£ 5$. This method includes Comprehensive insurance.
WARRANTY: One year return to base (excluding chips).
ONE YEAR EXTENDED WARRANTY: Available on all products (excluding chips) at $10 \%$ of purchase price when ordering.

## Where To Find Us!

Computer Mall Bedford No. 16 Downstairs The Harpur Centre Bedford
0234218228
Computer Mall St. Neots No. 6
Priory Mall Shopping Centre
St. Neots
0480471117

Computer Mall Dunstable
84 High Street North Dunstable Bedfordshire
0582475747



# BRIAN 



11 North Street, EXETER, DEVON, EX4 3QS


Can't see what you want? Just ring ( 0392 ) $499755 \cdots$ we have lots more than we can show here!
rrosyrriorition

By Post
Send your cheque/Postal order to the address above. Clearly state your name, address, telephone number and the product(s) you require. Prices can change so please phone to confirm price and availability Please allow seven working days for your cheque to clear

By Phone
For an even faster service telephone our sales hot line and quote your credit or debit card number. Friendly and expert buying advice is available at all times.
(0392) 499755

PRICES CORRECT AT TIME OF GOING TO PRESS. E\&OE. PLEASE PHONE TO CONFIRM LATEST PRICES.


> Compare Our Prices! We don't charge extra for Credit Cards or Standard Delivery. What You See Is What You Pay !!!

Monday - Saturday $9.30 \mathrm{am}-6.30 \mathrm{pm}$
03
a

499
755

FAX No.
0392
423480


All Prices Shown Include VAT. Standard Delivery Is Free. No Hidden Extras.

## Reach the top with... <br> LCL Seffaition courses A NEW LANGUAGE EXPERIENCE

LCL announces an incredible new release!


## 

Complete course of spoken and written Spanish. Suitable for holiday makers, students, enthusiasts and businessmen (as it acludes a program that generates your Spanish business letters automatically).
It uniquely includes real speech on disk. So for example, in one program you see a large, cute cartoon Spaniard who speaks to you with his mouth moving as he talks!
II demystifies Spanish and makes it fun. It comes with a book \& ranual (needs 1 Mb ) \& only costs $£ 24.99$ for

## 24-Program course includes:

| Pronunciation | Time |
| :--- | :--- |
| Colours | Plurals |
| The articles | Adjectives |
| Big picture vocabulary | Future \& immediate future |
| The uses of 'ser' and 'estar' | tenses |
| Wordsearch | Listening comprehension |
| Ar verbs | Imperfect Tense |
| Signs \& notices found in Spain | Ppposites |
| Er verbs | Nole Play |
| Small picture vocabulary | Newspaper |
| Ir verbs | Business letter generator |
| Holiday Madness adventure | Bame. |

The programs are invaluble revision aids..." PC HOME
Totally comprehensive courses (each is a compilation of 24 programs with a book and manual, or equivalent)
....of excellent quality (e.g."... a very recommendable edutainmen! program. " AMIGA USER INTERNATIONAL). with far too many topics to list, but some examples are:

## MICRO FRENCH (Beginners - GCSE) New. Computer talks.

24 programs $\bullet$ Real speech $\bullet$ Graphics adventure game $\bullet$ Talking cartoon etc.
MICRO GERMAN (Beginners-GCSE \& Business)


24 programs $\bullet$ Real speech $\bullet$ Graphics adventure game $\bullet$ Business letter generator etc.

## MICRO MATHS (11yrs - GCSE)

24 programs equiv. Algebra • Geometry • Trigonometry • Statistics • Arithmetic etc.
MICRO SCIENCE (Physics, Chemistry \& Biology 8yrs - GCSE)
24 programs • Tuition • Practical Experiments • Learning by Pictures

- Adventure game ( 1 Mb ) etc.

MICRO ENGLISH (8 years - GCSE) New. Computer tallks
24 programs $\bullet$ Spelling $\bullet$ Punctuation $\bullet$ Grammar $\bullet$ Literature etc.
PRIMARY MATHS COURSE (3-12 years)

MEGAMATHS (A level course)


24 programs $\bullet$ Calculus $\bullet$ Algebra $\bullet$ Geometry $\bullet$ Full-screen graphs etc.
$€ 5$ OFF TOTAL FOR 2 COURSES, $£ 10$ OFF FOR $3, £ 17$ OFF FOR 4 ("All appropriate LCL Courses are National Curriculum compatible \& run on most computers.)
£24.99 per course all inclusive. Orders/requests for free poster-catalogue to: LCL (DEPT AMC), THAMES HOUSE, 73 BLANDY ROAD, HENLEY-ON-THAMES, OXON RG9 $1 Q B$

Phone 0491579345 (sent within 24 hours)

## increase your hard disk capacity,



## ! <br> 

DiskExpander is an innovative program for all Amiga users. With this software solution you may double the capacity of your floppy disk or hard disk drives. The installation process takes only a few seconds and afterwards DiskExpander works invisible in the background. The compressions-ratios vary from $30 \%$ to $70 \%$.

The easy-to-use graphical user interface guarantees that even the inexperienced user is able to use DiskExpander immediately without any problems. DiskExpander does not only expand the capacity of your hard disk drive, even floppy disks now have a storage space of approximately 1.5 megabytes.
expanderfeatures

- Can add $50 \%$ to your hard drive capacity at a stroke

Fast compression and decompression
Flexible and expandable as new compression libraries are developed

Works with all drives, including SCSI, IDE, Floppies, and even the RAD disk

Reliable in tests - no data corruption

- Once installed the program is transparent to the user

Works on any Amiga and any KickStart

disk expander<br>

telephone 0234843388


Power Computing Ltd
Unit 8 Railton Road
Woburn Road Ind. Estate
Kempston Bedford MK42 7PN
delivery: next day $£ 5.00 \quad 2-3$ days $£ 2.50$ Saturday $£ 10.00$ deliveries are subject to stack availability, all prices include VAT, E \& OE

World-wide distribution available, excluding Germany

## 0

## FロRE——

COMPUTER CENTRE OPEN 7 DAYS A WEEK OPEN MON.SAT...............9.30AM.5.30PM SUNDAY OPENING.........II.00AM-3.00PM THURSDAY NIGHT LATE...9.30AM-7.30PM MOSTBANK HOLIDAYS.II.OOAM TO 3.00PM

> PREFERRED DEALERS FOR ACORN, CITIZEN, COMMODORE, DIGITA, PACE, PRIMA, SEGA, STAR ROMBO, SUPRA, USROBOTICS

## HOW TO ORDER

Order by telephone quoting your credit card number. If paying by cheque please make payable to the:
"FIRST COMPUTER CENTRE,
In any correspondence please quote a phone number \& post code. Allow 5 working days for cheque clearance

- Credit available!

Please phone for details -All prices include VAT
-All hardware/computers are UK spec.
UK MAINLAND DELIVERY TARIFFS
eStandard Delivery..

- Guaranteed 2 to 3 day (week days) Delivery...
$\bullet$ Guaranteed Next Day (week days) Delivery.
-Open seven days a week
- I 200 sq. ft. showroom
- Free large car park
-Overseas orders welcome
-Educational orders welcome


## FULL REPAIR SERVICE

We offer a FREE quotation on your computer or any peripheral (monitors, printers etc.). A delivery tariff of just 65.00 is charged alternatively you can visit our showroom.

## SALES \& TECHNICAL

24 Hour Mall order service 6LINES!

0532319444 FAX: 0532319191

FOR DESPATCH \& RETURNS ENQUIRES TEL. 0532319444

> SHOWROOM ADDRESS: DEPT. AC, UNIT 3, ARMLEY PARK COURT, OFF CECIL ST, STANNINGLEY ROAD, LEEDS, LSI 2 2AE.

> (Follow A647 signs from Leeds City Centre)

It is recommended that prices are confirmed before ordering goods E\&OE.


The AMIGA A 1200 RACE \& CHASE PACK only $£ 289.99$ !
now with NicEEMANSEL Filand Thous A 1200 DESKTOP DYNAMITEPACK only $£ 339.99$ HARD DRIVE VERSIONS R\&P pack $\quad$ D/D pack
 127Mb...........6519.99................. 564.99
209Mb.......... $5889.99 . . . . . . . . . . . .5629 .99 ~$
The AM/GA 4000
A
A4000/030, 80 Mb HD $\qquad$ A4000/030, $250 \mathrm{MbHD}{ }^{2}$ A40000030,340 Mb HD* A $4000 / 030,420 \mathrm{Mb} \mathrm{HD}^{*}$ A $4000 / 040,130 \mathrm{MbHD}$ A $4000 / 040,250 \mathrm{MbHD}^{*}$ $\qquad$ 1239.99 + .... 11879.99 A4000/040,340 MbHD* .. .1949 .99 A $4000 / 040,420 \mathrm{Mb} \mathrm{HD}^{*}$. .62029 .99 Price Rises Imminent on the A4000 range! All che above examples come with 6 Mb of RAM as Standard
-The hard drive only is not covered by on site warranty
$\qquad$
AMIGA 2000/3000/4000 NEW! CD ROM Drives

| Internal SCSI CD-ROM drives for the AI 500/2000 and 4000 (with sultable SCSI interface). All drives include driver software and will read both CDTV/CD32 \& PCISO 9600 standard disks. External kits for A3000 also available |
| :---: |
| TEAC CD-50 Internal |
| -265Ms Access time e355KB transfor rate $€ 339.99$ |
| TOSHIBA XM340I Internal -200Ms Access time $\quad$-330KB transfer rate $£ 321.99$ |
| TOSHIBA XM4IOI <br> -385Ms Access time -300kB transter rate Internal.£219.99 External. £314.99 |
| GVP A4008 SCSI controller..¢122.9 |
| Al200 REA |
| E C |

at last now you can date and time stamp your files
Fissdircecty omo the montherty $£ 12.99$ !
now onle

## A600 \& I 200's HD kits

$20 \mathrm{Mb} \ldots \ldots .{ }^{*} \mathrm{C} 89.99 \quad 60 \mathrm{Mb} . . .{ }^{*} \mathrm{C} 179.99$ $120 \mathrm{Mb} .{ }^{*} \mathrm{E} 219.99 \quad 80 \mathrm{Mb} . . .{ }^{*}$ ' 195.99 $210 \mathrm{Mb} .$. *\&349.99 *Just Add $\mathcal{C} 10.00$ for fitting $3.5^{\prime \prime} \mathrm{H} /$ drive upgrade kit no HD only $£ 22.99$

## THE CHAOS PACK!

## - chaos engine

OCHAOS ENGINE
-NICK FALDO CHAMPIONSHIP GOLF -PINBALL FANTASIES
-SYNDICATE
THE AMAZING ZOOL PACK! -ZooL (97\% Amiga Computing, Nov 92) -STRIKER (94\% CU Amma, June 92 -TRANALWRITE word processor either bundle only $£ 29.99$ or $£ 19.99$ with any AMIGA! AMIGA CD32 4 Game! PACK based on the 68020 , the CD32 features AA chip set,
A4s size footerint, 2Mb RAM, 128 K flash memory, A4 size footprint, 2Mb RAM, 128K flash memory,
built in WB \& the ability to play normal audio CD's inc Oscar, Wing Commander, Dangerous Street \& Digger only $£ 279.99$
CD Rom Amiga A570
Turns your Amiga 500 into a CDTV. Includes Fred Fish CDPD disk \& Sim City now only $\in 147.99$ :

## PRINTERS

All our printers are UK spec. CAI1011 CITIZEN

## [pp <br> HEWLETT STM PACKARO Stconr

All our printers come with ribbon/toner, printer drivers (ffavailable), paper \& cables! CANON
Canon BJIOsx...............
Canon BJ200...............
199.99

Canon BJ230.
$£ 359.99$
Canon BJ300. £419.99

Canon BJ330..
. $£ 464.99$
Wide carriageversion of the BJ300
Canon BJC600 Colour.... 6574.99
BJIOAutosheetfeeder.... $\mathbf{£ 4 9 . 9 9}$ CITIZEN
Citizen printers have a 2 year guarantee New! ABC Colour printer.. $£ 189.99$ simple (us ezex ass ABC) to use 24 pin printer
Swift 90 Colour. $\qquad$ C169.99
Excellont value 9 pin colour. Hishly recommended
Same out put as the 240 but with less facillites
Swift 240 Colour.
..$£ 249.99$
${ }^{24}$ Projetill.
¢254.99
Swift Auto Sheet feeder.. 7 79.99
HEWLETT PACKARD
HP Deskjet Portable..... $£ 274.99$
HP5 10 mono $\qquad$ £255.99
HP 500 Colour. . $£ 309.99$
HP 550 Colour.............. $£ 446.99$ 4 times faster than the HP500C!!
All HP printers come with a 3 year warranty SEIKOSHA
Seikosha SP-1900.......... 124.99
Seikosha SP-2400.......... 154.99
Seikosha SL-90. 6154.99
6159.99

SeikoshaSL-95. £295.99
Seikosha Speedjet 300..f319.99
12 month extended warranty $£ 10.00$ STAR
Star LC20.
.15132 .99
180 cps draft, 45 cps NLO. quict mode and muiti
StarLC100 colour.
. $£ 139.99$
9 pin colour, 8 fonts, 180 cps dratt, 45 cps NLC
Star LC200 colour........ $£ 195.99$
9 pin colour, 8 fonts, 225 cps draft, 45 cps NLQ. A4
NEW! StarLC24-30 Col....... 2229.99
NEW! Star LC24-300 Col.... $£ 299.99$ 24 pin quality. 210 cps draft, $67 \mathrm{cps} L Q, 39 \mathrm{~K}$ buffer
Star LC24-200 colour.... $£ 264.99$
Star SJ48 Bubble jet....... $£ 205.99$
NEWI Star SJ 144 Colour Thermal only $£ 439.99$
Star SJ48 Autosheet feeder..E49.99
PRINTER CONSUMABLES
Canon Bj10cartridge.
$\begin{array}{r}18.99 \\ \hline 4.99\end{array}$
Citizen Swift mono ribbon
Citizen Swift Colour r 184.99
613.99

Citizen Swift cover............
Double life 500 cartridges.
HP 500 mono cartridges.
Re-Ink Spray for mon
Star LCIO/20 cover...
Star SJ48 cartridge.
Star S 144 cartridge (pa
Star S $48 /$ B) 10 Refill kit.
.......... $£ 11.99$ Star SJ 144 mono cartridges ( 3 pack).... $£ 16.99$
Star Sj 144 colour cartridges (3 pack)...C16.99
FULL STOCK OF RIBBONS, COVE
AND INKREFILL CARTRIDGES

## MONITORS

All our monitors are UK spec. All monite come complete with a free Amiga lead
GOLDSTAR SVGA. 28 dp Colour monitor with overscor only $£ 249.99$
Sharp TV/Monitor....only $£ 189$
COMMODORE I084ST

## only $£ 199.99$

COMMODORE 1940 Dualsync, .39 dpi only $£ 284.99$
COMMODORE 1942
Dualsync, $\mathbf{2 8}$ dpi only $£ 349$.
COMMODORE 1960
multisync .28 dpi only $£ 379.99$ MICROVITEC $14^{\prime \prime}$ MULTISYNC 1 year warranty only $£ 399.99$

SONICA Colour Monito only $£ 194.99$
RETINA 24 bit graphics car from $£ 334.99$

## SUPRA MODEMS

The Supra-Fax I44LC
V. 32 bis ( 14400 baud!)
 only $£ 159.99$ !
The Supra-Fax Modem
V. 32 bis ( 14400 baud!) Send \& recelve tax messages ying gax siw Tim
 14400 Group 3 Fax. In itudest tree modem commi $w \&$ cablefl
only $£ \mathbf{£ 2 0 9 . 9 9 !}$
SupraFax Plus.only EI 19.99 Send \& receive faxest(needs FAX s/w) Even faste auto receive. 9600 bps Hayes comp. V22Bis, V41 sion speeds. Includes free modem comms s/w is cable!!

Supra 2400....only $£ 64.99$ Get on line \& receive. 2400 baud Hayes comp,
auto dial
BIS. Includes free modem comms s/w \& cablell All Supra Modems come with a 5 year warranty

## USROBOTICS

PREFERRED DEALERS

## Sportster 2496+FAX <br> Sportster 14400 FAX <br> WorldPort $14400+F A X$ <br> CourierHST (16.8) <br> Courier V32bis Terbo + FAX... <br> CourierHST/Dual 16.8 Fax....... $\mathbf{E 4 8 6 . 9}$ <br> CourierHST/Dual 16.8 Terbo Fax. 2556.9 <br> "Y you thought V32bis was fast try the terbo! The come with a y year warranty \& ore BABT Approved <br> PACE MODEMS

MicroLin V22b FAX....... 1775.99 MicroLin V32b FAX....... 6274.9

## PRIMA A500 \& A600 RAM

 JHEAR Populated to 512 K .only $\leqslant 16.99 \ldots . .<23.99$ Populated to I Mb. 2MbA600ORA1200RAM card...... 6114.99 4 Mb A600 OR A1 200 RAM card. 169.99 AMIGA A500 512K RAM by PRIMA
## SOFTWARE

 BUSINESS


## MISCELLANEOUS



PROGRAMMING



## PUBLIC DOMAIN Top 30

## from $£ 1.50$ ! (many more tities available)

 Kiclstart Emulator. Last StandinHoth. (PDA 11 ) 1 disk..$[1.50$ (PDAO14)) 4 disk. C3.50 (PDA005) I disk. $C 1.50$


TRSIMisery Der





Fairlight Vertual Drearns.............(PDA008) I disk $[1.50$

pectrum Emulator version 1.7 ........................009) 3 diskA. $C 2.5$
D-Copyv



UTILITIES

## 


GP FAX 2.3 softwar
Quartback Vs.........
QuartbackV5 NEW! ...................................................................
Prima A600/1200 Hard Drive setup software. This is
the best setup software on the market.............. $\mathbf{1 5 . 9 9}$
Latest version of this Fast \& Famous hard disk backup
utility.
Quarterback Tools...............

## VIDEO AND GRAPHICS

37 Compugraphic fonts Vol I, 2, or 3 by GT....

Dstuxe Paint

## Real 3D Pro NEW

Real3DClassic.

Scenary Anima
VideoDirector
Video Ma

WORD PROCESSING/DTP
Final Copy 2 (UK) Release 2.......................... ( 66.99 built in outline fonts, full graphics import (IFF and
HAM), UK thesaurus, spelling checker HAM), UK thesaurus, spelling checker \& much more.
Final Writer DTP NEWl.
Kindwords V3................................................................
Best selling feature packed word publisher with database
Pagestream 2.2U.K. version.
Pagestream 2.2U.K. version...
Pagestream 3 U.K. version...
Pagestream 3 U.K.version.....
Pagesetter 3.


# At Last! 

## A double-decker that won't keep you waiting. Introducing

 KCS HD Dual, High-Density Floppy Drive- More storage than any other Amiga floppy drive featuring 960 K and 2 Mb extended formats and up to approx. 2 Mb (DD) or 4 Mb (HD) using automatic, real-time compression.
- Faster than any other Amiga floppy drive.
- Workbench 3.0 DCFS filing system (Kickstarts 1.2+).
- Transparently supports all Amiga filing systems and disk capacities: $880 \mathrm{~K}, 1.76 \mathrm{Mb}$, OFS, FFS etc. Fully compatible with the A4000's highdensity disks.
- Built in protection against bootblock viruses.
- Autoboot feature with all Kickstarts.
- Compatible with the KCS Power PC Board.
- Works with all Amigas running Kickstart 1.2 or higher.
- Includes hard drive backup software.
- Reads and writes PC disks on any Amiga.
- High-speed analogue external disk copier.
- Includes software track display.
- Low-power consumption.
- Low-profile case - colour matched to Amiga.
- Easy to install and customise.
- Whisper quiet NEC mechanisms.
- Hardware compatible with Blitz, Synchro Express, Cyclone and Cyclone T2.
- Developed in the Netherlands by Kolff Computer Supplies, producers of the acclaimed KCS Power
"It is the most important and singularly useful product I have seen since Amiga Shopper began." Amiga Shopper - January 1994


## Comparison by Feature

| CompariSOn by Feature |  |  |
| :--- | :--- | :--- |
| Features | Competitor | KCS HD |
| Kickstart | $2.04+$ | 1.2 or better |
| Double-density | 880 K formatted | better than 2Mb |
| High Density | 1.76 Mb formatted | better than 4Mb |
| Filing Systems | Workbench $2.04+$ | Yes - all Amigas |
| FFS | Workbench $2.1+$ | Yes - all Amigas |
| International | Workbench $2.1+$ | Yes - all Amigas |
| PC 720K | Workbench $2.1+$ | Yes - all Amigas |
| PC 1.44M | Workbench 3.0 | Yes - all Amigas |
| DCFS | At extra cost | Yes. Software inc |
| Software | No | Yes |
| HD backup | No | Yes |
| Track Display | At extra cost | Internal emulation |
| FastCopy | At extra cost | Internal emulation |
| Copier Hardware | At extra cost | Internal emulation |
| Synchro Express | At extra cost | Internal emulation |

# Forever blowing bubbles 

ince that cheeky little upstart the BJ10 started the ball rolling by knocking spots off dot matrix Ters only a couple of years ago, the bubbet and inkjet market has grown enorwosly thanks to lower prices and the ntrubted advantages offered by this type Trinter.
At the expense of general flexibility, bubhets offer sharp, near-laser quality output thi greatly improves upon the results of *pin dot matrix, and though suffering in Ins of speed and print costs they have abed a bigger and bigger slice of the iner pie.
la common with the rest of the Canon nge, the BJC-600 is a compact unit with a -tech appearance and a control panel ich has deliberately been kept as simple

> Canon's bubblejet range of printers seems to go on and on. Now Stevie Kennedy tries out the latest colour addition, the BJC-600
as possible. This gives the impression that fewer functions are available (partly true), but also helps avoid the intimidating appearance of those multi-button front panels lit up like Christmas trees you find on so many printers.

A single set of ink cartridges and a pack of 25 sheets of A4 plain paper constitute the starter pack for this unit, and there are no


The BJC-600 excels at colour graphics and clip art in up to 256 colours, but the limitations of bubblejet technology begin to show as Ham and 24-bit piccies are printed. Not bad, though, eh? Fancy a Cox's Pippin?

## Media costs

One of the abiding concerns with most bubblejet and inkjet printers is that of sedia costs, or the price you pay for each sheet of paper printed. Depending on - eost of replacement ink cartridges and other consumables, running costs can uny sharply, and a printer which on the face of it looks a bargain could have high Grerheads.

The Canon's ink cartridges will stretch to about 200 pages of pure text, a figure which would come down to less than 100 pages if decent sized colour graphics were used - a figure which is on a par with the competition.

Official Canon refill cartridges for all four ink wells would cost about $£ 34$, norking out at 17 p per copy at best, and up to 40 p per copy in heavy use. Using a rilll system such as that featured in this month's Shop Window section, howwer, costs can now be reduced by two-thirds.
less than three manuals; a quick start guide, a guide to using colour in documents, and the user manual itself.

The latter is a 118 -page booklet which contains sound basic advice on using the printer, but which doesn't go into the same depth as many manuals. Reference sections on commands, character sets, and so on might not be of interest to most home users, but they can be important to professional owners.

No printer driver software is supplied for the Amiga (though the PC disks bundled with the printer can at least be reformatted), a fact which is offset by Wolf Faust's shareware CanonPrefs program.

## PREFERENCES

This excellent preferences editor has a CanonBJ-EC driver specifically for the more expensive Canon colour models and offers the user a range of dithering patterns.

When printing using this software instead of the standard Workbench EpsonQ driver, results - particularly colour graphics - are noticeably better, and all new Canon owners are advised to phone their local BBS or shareware library before wasting any ink on Workbench drivers.

Plain paper can be used, normal 80 gms photocopier paper sufficing for most jobs, but a lighter paper which holds less ink is better for graphics.

When a large colour image is produced, so much ink can be used that the page starts to roll up and mucky fingers are the order of the day until everything dries.

Graphics using anything between 16 and 256 colours are printed in very high quality,
the Canon's dithering coping well with the demands of creating the extra tones from its four ink wells.

However, when 24-bit or HAM images are attempted, output can often be dark and smudgy, and these more colourful graphics are best left to thermal transfer units such as the Primera.

For all types of business presentations, logos and letterheads, the Canon is ideal, and for colour clip art is best of all. In particular, the output from the better word processors such as Wordworth and Final Writer can be superb, mixing crisp colour graphics with clear text at the full 360 dpi .

Fewer features present themselves to the user from the front panel than you might expect from a printer in this price range, but the instructions for automatic head cleaning and selecting one of the seven built-in fonts are clearly given on the underside of the flip-up covering panel, making this one very simple little beast to use.

Though there are no macro settings for the user's favourite print set-ups, an easy configure mode can be used to switch between 14 different print standards, from mono on plain paper to full colour on coated paper or acetate transparency.

In addition, colour registration is easily tested and reset if the printer starts to blur the detail on colour output.

For those in need of quality presentation at a reasonable price, this latest Canon release is one of the better options, and worth a long hard look.

## The bottom line

Ease of use 9 Implementation 8 Value for money 8 Overall 8 Phone: 0532319444 Price: $£ 575$

UTILITIES


COMMUNICATIONS 025 conmspanion Nends cas
 cz29 TEAM II $n .1$ Comms prog we2o C303 opHicomMs inc 14

## C357 10 C332 Amateun Rho

 C355 TERM v.4.4 (2 dias) WRES Es36 spor Roaneat unt


| luat assussme hangy tcots was <br>  <br>  <br> 7LBEG SUPER PUWER PWCRERS <br> Uast mianseici ncis <br> 1252 CCOMMANDS <br> LISt ADW Ovetory th <br> Ju3at hackial 1.5 sec Curtur <br> Juan sta ctol hideauk. <br>  <br>  <br>  <br> IUCE T00LS FAMASTICA <br>  <br>  <br> I DALA ERST WTRD MEER <br> EUA15 PCOMAFPESS Prick <br> Du4sis 8 -IEXT Tect pasar <br>  <br> LUZ1 LYapusov facti gesenty <br> ZUA24 COM NUTHOA It inages ber cons <br>  <br> U42E ESY EEMEH (2 diky Whe ant atom <br> UM2T MEMU MASTER 2 <br>  <br>  <br> US30 IFs Comphessicw uth <br>  <br> Uc93 anos panter houthe for doas poys <br> U434 V MSAPH + 28 Com put elfots <br>  |
| :---: |

## EMULATORS




 EMO66 MS DOS PMOGS FOR PC TRSK BDMM

 EMA10 DEERADER D
 EMA14 KICKSTART 3 Emulatoh Upgrides W32 ${ }^{\text {EMA }} 15$ PC TASK V2.ES EMA15 FC TASK V2.ES
EMM16 SPECCY BMLATOA V1.7 AI Amions



## HARD DRIVE UTILS <br>  <br>  <br>  <br> Hoyge bacxup <br> P000 c cisk Oper

## DEMOS

DI10 WUOBSAN MFEDNEMOS
MISG PIK ROYD - THE WALL (E dats)
MI83 Sewity - YIstinat Bia

10077 KEFRENS MESA DCWO vuI [2 SSM
D0394 uTOPu Tota confus



DDSt0 wacko Metarhone anm -







DB2 DNCE TRASH 22 sus) Rant
Doses suevis bewan domilone (2 qus)
Deses 20 Detw ty tuenty
 7 mese creut Rer
(D03) 3Lents expose (2 dies)
[1011 Possoon cenfat vooorowr pat 1.2]
D332 Bartle of BRTAN Noin


-DSso s\%cemuls matil
Dose dimensios X Rane domo
D030 SUPERMEWER VR 4 Diany sion
meg maike
7-3at misat mesistance have astoms

1 DS34 KANSH WORLD OF CANMODTAE
CDU5 SMMITY WDRLS OF COMOMOORE




H2 Bry wieh
54 mesint
Lusp siow r3:

545 Nivi 1.5 for





 Ue5t Aot-30 miniey pabay

U4ss alex ouot
Y451 Dems chuthes




## PRINTER DRIVERS

पPDIT7 PAINTER DRIVERS (2 Disks)
LCads of em!
[ PDZOO PAINTER DRIVER GENERATOR

## Make your Oan PD275 JOY OF PRIMTINE Drvers + fonts <br> PD281 PRAMT STUDIO 41 divers - pood P0327 CANOM PAIMTER DRIVERS <br> PO327 CANOH PRMTER DRIVERS PO32B PRINTER DAIVERS UPDATE 3 <br> PO3 28 PRINTER DRIVERS UPDATE 3 PDO335 PRINTER DRIVERS CANON BJIOE <br> I PDOSE CANON PRINTER DRIVER BU130 <br> PDIOT PRIMTER DRIVERS Starfigsond <br> PDO5S HPS50C Printer Driver <br> PDA09 HP PRINTER DAVERS <br> PDO410 PROF PRINTER DRIVERS <br> पPOATO PROF PRINTER DRIVERS $\square$ PO4 11 STAR PRINTER DRIVERS



## HOBBIES

| Has CROSSWORD DESIGNER <br> H14E A-GENE <br> H175 GOLF RECDADER y 1.84 <br> H202 RONO RDUTE USA <br> 1216 FOOTBML LEADUE EDITOR <br>  <br> R-O20 CuIT TV VOL 1 TV series info <br> H2ge whill 2 DUA an TV peggs: HOM LAST WILL \& TESTANEIT <br>  <br> h20 FAMM Y HISTORT D.Base <br> HETGIEN PIM BOWLIMG DSAASE <br> H339 AMIGA PUKT Horse rachy HS35 PERM CMECK v1.0 Pods predicer <br> H342 SIITCHERY Croas stith work <br> HSge race ratel horsa predicter | H365 QuESTION ATORT CuImaver <br> H361 NEW BIOAYTHNS Ecoslert putg <br> MS62 WIME MLEBS D/BNSE <br> H303 GYCLing misiter <br> H354 DMATS MACHINE SCOn recoriar <br> H365 AMraEN Fambly hishary <br> 1058 PODIS WZZARD Demo <br> FOGT MING SHU Ctimest Aetrology <br> H36s ASTRONOMY 2 Data \& gaptics <br> H069 AMERICN FDOTMML 2 Dids) Rulas <br> H37O LANOSCAPE GAROENNG <br> H371 GEEEDLOGisT WB2 and above <br> HIT2 TOP OF ThE LEAGUE Foothuil Marager <br> H273 COURSE FRRM Horse nating <br> - 374 IORECASTER Horse race piedicte: <br> H 375 STANVLW Aetronomes <br> H376 cooe Mukcus v. 7 Highway Cobe | - H377 FODTBALL FORECAST DEMO H37B Bon appetite racipe database H379 poots tools 2 Poos progs H3so SEE Thi AURA (2 doks) human mea H3s1 PHDTOSAAPMY ADout the Daik f H32 O5OLVE CROSSWORD Solve thes 1383 PROFESSHOHAL BIMCO FOBA WORD UTLLIESS Word piabe sole h365 KITE SIMULATOR Ry your kite! h38s pools wizahd jumion viog H387 SPIDERSOFT UTILS Gasten Desiges H28s GEME Famiy Hatory <br> H3as stock alkurg Stock \& Sham HS90 WHOM 3 Part 2 H391 Whom 3 Part 3 |
| :---: | :---: | :---: |


EScon necordar
pools want Demo
ASTHONOHY 2 OHa 8 gaptics
MERACA POOTML
 OP Of THE LEGUE Foithil Maragen
OURSE FORM Herse aciga


## GRAPHICS

##  <br> 



GU255 RICK PREKS ART

GU205 SCANGES CLIP-ART (3 DEsts)




 OYKMMIE FONTS 2
OACK FOMIS 12
 COSMOPOUTAN FONTS
COSMOPOLTAN FONIS
COSMOPOUTA FONTS
 BEARA POTER CLIP-A
GELAKITE FOMTS

 1 DISK MANAEER + F
2 SHADOW MKXER

 COCKICOMS
TSSASSINS MUT-WSION Y. 0
THOWMAN CUP.ART
 PAGESTREAM 21 FONTS
WAT DISKEY CiPASS) WAIT DISNEY CLIR-AIT
MAGRIIC PMFFS Wis 21 MAGRETC PMES V1 3
22 COMPUTEREYES FOMTS PACK

## SUPERB QUALITY CLIPART

| nariaour mexy | gase minjetiomition | catuses |
| :---: | :---: | :---: |
| arricomman |  | ${ }_{\text {coser }}$ |
| artwi |  |  |
| utrictamime |  | men |
|  |  | \%umpares |
| Mriva | Sosuc | Stum |
| atnis | comat | 8 |
| arripaemer |  | \%uearemitio |
| ariom | mis |  |
| \%118200 | masom | $a$ |
| \%1105 | -ixamation | nite |
| mo | Decmathear | Cuss mince |
| arus |  | cusem nat |
| aram |  |  |
|  |  |  |



## MUSIC UTILITIES

| MU2 MDDULES OME | MU93s PGothacken V . 2 |
| :---: | :---: |
| Wus modules Two | MU334 MOISETAMCKER 2.0 |
| WU4 MODULES TMREE | M035 soumd Thacker wa |
| MU5 modules four | MLI36 PROTRACKER 2.3 Latst |
| M.6 nooules five | Mua37 ASi Aldio macic Vel 3 Ta |
| MOT Modutes six | Mu339 asi audio macic vol in |
| MUT0-MJH7 ST SAMPLES \& msthuments | MU339 OCTAMEO V2.88 chamal |
| phocs 38 Debs | MU30 COTV PLYYER SmpIn |
| Ithanke sound tracter | MUM1 SUPERSDUMD |
| Muts sta theeker 1.3 | Mu322 souno So |
| MU51 Modulesoncs 2 | MU343 DESKTOP |
| MuT NED 3.2 Husic editer | 30stail |
|  | M 1344 TAE MASTR M. |
| MUS58 MULT-PLATER V1. 11 A Mlisk | MWais powelturs Orod sound dite |
| MU317 DELMIS SMMRLE DISK 2 Matonta in | MLD46 BEATS ( 5 dsas) Drum Sanples |
| WU319 Delinis s MMr Es disk 3 Baby couch ett | Mu34 vocals 5 distes Supe Sampe |
| WUSIS DEWMIS SAMPLES DISK 4 Teintions eic | Mu348 סaum kit sahples (3 disse |
| MUs21 Denils saurlis dik 6 Sur Tre ete |  |
| MU322 DENMS S SWPLES Disk 7 Hewy morale ht | Mu350 music modules (debs) Lim |
| Mu23 ASSK3sims Audio macit vol 1.1 Lots |  |
| Mu224 ASSASSIMS AuDio mucic vol 2 Tacher |  |
| Muzs soumd applications as 8 (2 Oises) | Mussic Chipmass SIMple disk 1-7 |
| Mu326 MEEA MOH Y 3.29 | MU354 SAMPLE FACTOAY Sound flacti |
| Mujer ShMrle Muxer | WUSSS DLLTMACKER Sould plye |
| Mus28 casio cr-101 | NUSS6 POWER PIMER 2.9 |
| Mu329 bx 1t0 | MUa57 Iff brekatals 1 |
| MU333 PEXLE EUAOPA | Muase tecrano moduts 1-5 (5 dess) |
| Wus31 Mucio anmution stueio | Muasa ocianocx 3 Pach |
| WU332 NSTRUMENTS \% SMMPLES | 20to octastuff Fer Dctames in |

VIDEO WORK


## A1200

|  |  |
| :---: | :---: |
| SH- 6 SUPLP MAM FICS 16 dsata Brat |  |
| NuI2 JPLE AEA IWACES (9 deks) Sureti | [au3s cmaste suecs |
|  |  |
| WU14 SLEPLESS MCMTS - 3 UTics |  |
| Lill |  |
|  ath |  progumtres |
| Aura 24 Bit utils -3 convirines miog | NUS4 WNW ACTOR Moditer nnm pacioy |
| ALIE WNaLCMD froch panater | WNE5 ACA BLANKER - 14 Sthemt ones |
| Auz. IPig unils nand 24 cemetor aks |  |
| ALIT NO PREP Drest hatic ant |  |
|  |  |
| K24 HD Mstaleh | $\square$ IJt9 PTCMI PROECTS EXTEMSION D |
| Huzs metic wohkerut supert itms | fave |
|  | -auso poimt dr sale demo - sup |
|  |  |
|  | - auss wes sak |
|  | Q AU54 kLL AEA 22 Turn all AGA chip |
|  |  |
| tempap | Lte Motohou meaners 2 (2 deks) |
| AU3 A1900 VAUS ELLERS | $\square \mathrm{A} 57 \mathrm{ventss}$ (4mb PA |
| Lus3 new was sufen kllens | $\square$ AUSS ACA TETRIS |
|  | $\square$ nuse stive packen (to dias) Arima |


| －Erasall Arphout－very adactiat trat Thekl（2 askj）Sose teme af poon Aovitur cicy titall Tet onif sodemun WOLDES Flefer Text enly adomus Gane swes Hag．Pbit Oluens sto Buren Tustris Shapo dupping utatort cults disk 7 Badiymmon its Furs CuEST＇Arada pamle good gropto <br>  <br>  H06 BLSH Stoot an us <br> BCAFE FROW JOVI Space Aucate TOWMHLL CMULLENE Tactes，ski to wit ＊emtrathet Fintas iat phivingant BAGON CAWE Dungoon Mestir tops UECHFlait Reg hal plaing gant tarysuayen drcade adinstur shum Eavens stout im <br> STM ThEK 2＊（3dses）Acabo ativture row pow gunnes＇Fcade shost in ap rauir machis＋Exetent wevronte（20tivi）npt <br> TBL LANEE－Sunnarne Sinuaton RONCXE Girs <br> 2S ACE IIWord War 2 SEU． <br> wiw tit whtitrss Puifom TREASURE HUNT（6－4 ys） DEAT LIST GAMES VI．O MMACKD AR B WONDERLAKD Good for ide THATEMIIE JOUST Sosd graphics <br>  Tate－ 73 spash let aty TUS－TRE GAME Puif lies sumtew betith（20isis）Mems ACK UP A PURLLE＊ 2 Oisis）dpsams <br>  <br>  sacstrite－Custent to hits <br>  TRMOLISOW MISSIOW＊Benber tucutex Cand pare <br>  N0S PANTT Colouring book BMgnus GMES 10 gines tenes Yion plotitho for lifs <br>  | 693 BLocxit Gosd yraphts－Act <br> cas HACK Toot ast <br>  <br> G96 EOARD GNES <br> C97 ATK ATMX C84 gant <br> ｜G99 BART SNPSQM ScrolingSEU． <br> G124 PFE RIDER Space inafer SE．U <br> St25 月音ify Paring <br> 6126 RuSH HOUR Fropar－Gat acoss the rad <br> al27 TOMTESFELET Sond bal t／pi <br> G129 WET PEAMER COMES Pove <br> G 130 WZARD WORLOS EUS PUFOTM <br> G131 WCALD OF Foots Stoct en up <br> G133 CIAD SNARP 5 cand pames <br> St34 TOTHL Wh月 Aisk Dpo <br>  <br> S136 SEYFLYER WWISEU． <br> G13）Pustus Ctert bril <br> G138 SOUMTS REVEMEE Wole tons <br> ti35 P明 if Thaves <br> D145 daws complanow 6 parms <br> 5141 ATLAMTIS ISmatay <br>  <br>  <br> G144 5wakes 8 LapoERS Good <br> I45 CRMES GLLORE WOL 7 Fort the young <br> G146 AR WARAIOR Flidt simition <br> G15tETTPL ArateSEU． <br> G152 DUMGEDMS OF KADHON Hackjpt <br> G153 duick 5 Silven Pathom．Exchent <br> G154 waster of DE THin Shot the rign pocts <br> G156 EThos Teet asio＋pics <br> G157 BATLLE CARS 30 CIS SEU． <br> G158 CeuLLEMGER Dstr－5 fity <br> G1èz CATACOME Graphic adi－laty wal dave <br> Glas biccean ar wha war gines <br> G134 SMxth TV RIPCPF \＄E U Fithints <br> 6135 Doter Hani Dpe plofom <br> \＄1as Fick Out Par L．V．poos <br> 6187 MU－SHOOT EM UP Spoce <br> G13s sout quthD P Pusion－Fiby <br> GId93 STRXE BLLL Bustal．Bril <br> 6193 PARAD0S Martie Side <br> G192 chazy sue Pariome Ist nit <br>  <br> G194 comcemthatiow v2．3 Par 2 vpt <br> G195 DESTMuTicN H00MEASE Thuit <br> G6195 ESCAPE FROM JOVI il Gres | IG197 MO MANS LAMD WO SEU <br> G1s b0mimoes V．Good <br> 610日月AFMAELS REVEMGE TetiosEU <br> G200 mombit Ther tivit hdv <br> G201 LAMER GAME Woltype shoat the teastes <br> G200 LETHRIX Stapes with tine Imet <br> A204 GRUL GRABEEA II HepENin！Mood promin <br> azt5 Smont of moht ock 3 disk dov <br> 9206 A MGift AT THE TOP Tenorist abv <br> Gi207 Micht at The Town Treaty <br> G2cs oundrax Pum Exalet <br> C209 Y YM Ytie－Pocmir <br> G210 REVEIGE MUTAIT CINELS SELU <br> C211 BATLLENENIS Hunctuck pleftom <br>  <br> S2MT WEIRD IH EDOEWHYS Purit <br> g218 KUAATE WORM Pufform－aht <br>  <br> 5220 WIA OF THE FOUR Grathic adv <br> 0221 wzernes ocuall Grotas ath <br> 0222 PCOE NKGDON 12 dsse） <br> G223 ARCADIA Bumkest－very pepiler <br> T22t PONE A PORK Sios the foues <br> a225 Mn thict－Haris Mpe <br> G226 RAD III SELU－wichat <br> G227 SEREME III <br> O228 w <br> 3229 TETMEL－Fetris <br> g230 RUMPTY a TE ALIEN invaders <br> G212 LOMAAK Gaptic adV <br> C223 0MEGA RECES EU．Grut <br>  <br> Gat2 MR A MRS Young platbort－wey pood <br> G263 TANX Emat 985 <br>  <br> G245 GREND PRIE SIMCLITOR Mepa <br> 6256 NUMEEA FUMELEA Namber purst <br> CosT LENENEDODS Slast anay <br> cese anowTr <br> Cas9 SRATE <br> g220 plowet1 <br> G2271 LAZER 2OME <br> ब272 LEMMNDS PACK <br> G273 THE MAZE OMF <br> S274 5：ACULTURE <br> 5275 APDYA <br> G276 Sin0t 0UT |
| :---: | :---: | :---: |



|  Gis9 KITHUTE HNT KIT VIS |
| :---: |
| G349 THE ICE DIERTS Disk 2 Lats |
|  |
| G3Q2 THE SECRET OF NONXEY ISLAMD（Dems） |
| G344 ESCAPE IIC Crating gines |
| Gise OUZMUSTER v 1.9 Test your kowndge |
|  |
|  |
| Q3s mamur Extiest card game |
| G303 3PACE RESCOK Supe shoat＇en up |
| G351 Iwhoths Mahk 11 Spact inaters |
| G371 ERIC TME WARAIOA Sim to favrtier |
| G332 clakthis Tris tpe gane |
| OST3 CLIFRIS Lisat THIS |
| Q374 DELUXE PACWU |
| 9375 Clucha ge Shooten－up |
| G37\％LBEATOR GAVIS Shoot－m－LP |
| G3m ACK．ack |
| OST3 CRAZY SUE 2 Linst pletom |
| G380 UST REFige Imaders |
| G381 ZIWDSER GAME Kerse game |
|  |
| 63\％5 Moxia v． 4 L Lust |
| 0365 FRuIt MCHMEII AMOS good |
| 6387 03Luviow Deflata dont |
| 6383 30MB MCKY Puiform |
| 6390 OTMELLO Bard pame dissic |
| G391 SOLTAMAE SAMPLER Cards |
| G3Se WiLy is Tie Caste Exalert platom |
|  |
| G394 MARIO w WONCER LNO Bifi clon－ |
| 6196 Giocy Geaz tew platom game |
| G3g ATOMS Werd！ |
| 6399 VECTA STOAM Bri hrw Tempest done |
| G400 bicital Tethis |
| G4CR TETRIS PRO |
| G40S SUPE PACMUK 32 |
| G400 SRIDCE |
| 3465 13in HOLE 60LF（2 diss） |
| S4t6 SLIDE SOUuAES Pucte |
| 6407 THEY CNE FROM OUTES SPACE Shod |
| GU08 SOM OF RLACOER Exishom diathom |
| G469 BRasalaw Adictie purt |
| 6410 MYSTERY 2144 AD Finuatic lirier ato． |
| S411 GuSH fab pipeitedion |
| G412 MEICW HLSSMCRE ALCJU |
|  |
|  |

 6A15 SUNBALL FAtin M Mrogenert int
 6417 Mubsie Mowy maing papster aboutere 1 Cdis nouletit＋Fulio 2 Gtod gans（nat 1.3 ） jad suT2 EMES Wom，butar，spod etc．
 G G121 20MAIE，APPOCOUPS ADD DEFENOEA 2 A－
 GK23 OLYMPAD（Lantings）（2dides） 7 G42s SEBDUS BMCRGAMMOH 16225 NRPORT
76027 ExT－ 78 Pant

Ga331 Popty
GH32 CASTLE MORRIS
G433 TME RIGITT WAF Lemmings
6434 Patience Cards

G435 300 N ROP


Gu4t texus chuisaw massace
6433 ЗСRABBLE
644 SMuFF Hum
6455 ThRUST DUEL Gavity combl
0477 Exoscisu（2 Dists）Ade．S gratice
Guss conojest is Domwinnw Stidyy ser gar
6450 DDNaEF MOMI Pathorm
GU52 MA MEN OLTWPICS 2 Drich

G45 ESEAFE FTOM DOOM RPG tipe
6455 MGB OCTME Overtad dinhy
GS55 FITM MISSOW 2 Shud en w
GUS7 RUNG FU CMARLIE Pithom bet im up
GASS CANES GMORE I3
Gi59 wintal maces vol？

G461 ITREPRO Alusar Dame form Evil G4E2 OJI MASTER
G464 ETE OF BEHOLDER IICMets

## CLR LCENCEWARE

## BOULDERDASH




2 n 1 P
We heve Accisxing cames comaition deks $1-148$
iff shock－incouring iA Aessasis fro dek－Please arow as ASI I，AS： 2 str－Mast wow on AS00． A500t，A600，A1200

ASSASSINS PACKS
Any $10=512.50 \quad$ Aty $20=520.00$
Any $50=847.50$ Or singly at $P D$ Prices．
CD32 COMMERCIAL CAMES FOR CDTV，A570，CD32 FOR COTV，A570，CD32 $£ 19.95$
$\begin{array}{rr}\text { CDPD } 2 & £ 19.95 \\ \text { CDPD } & \\ 19.95\end{array}$
17 BIT COLL …．．．．．．．．．．．．．．．．．．．．．．．．．$£ 39.95$
17 BIT CON
$£ 39.95$
$£ 19.95$
COMMERCIAL CD＇S
ARABIAN NIGHTS ．．．．．．．．．．．．．．$£ 14.99$ $\begin{array}{lr}\text { CASTLES 2 } & £ 29.99 \\ \text { JAMES POND 2 } & £ 29.99\end{array}$
LIBERATION
MEAN ARENAS ．．．．．．．．．．．．．．．．．．．．．．$£ 29.99$
MORPH．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．99
NOW GAMES 1．．．．．．．．．．．．．．．． 119.99
NOW GAMES 2 $\quad 1$.
SENSIBLE SOCCER $92 / 93$－．．．£29．99
TROLLS ．．．．．．．．．．．．．．．．．．．．．．．．．．．$£ 29.99$
WHALES VOYAGE ．．．．．．．．．．．．．．．．$£ 29.99$
ZOOL $£ 29.99$
PLEASE ADD FOR P\＆P
UK $=\mathrm{EI}$
OVERSEAS $=£ 2.50$

## Cleot dinosalus lam education



single chord aval 1 dse E3．50．
CLEOTMATHS INSTRUCTOA Gee trough the GCSE 3 with Bis Maths


LE15 FAST FRET Lasm scaies on the gutar and become as pood as

Ts propram will picturas） 2 disis 84.50 ．

CLE22 CHESS TEACHER Learn how to play chess the assy way wath this
teaching an 1 disk 53.50
CLE25 CHORD COACH V3． 1 Leam how to play afferent chords on the




any re with fis program 2 isiss $\varepsilon 4.50$ ．
with raphics 2 disis E4． 50 ．



UTHIIIES
－CWOI VIDEO TITLER Maka your videos look protassioral，screllers es




Qu14 STOCK COMTROLLEA Keep up to date with your stock cortrol． 1

 QU19 LC24FONTS Ditterent fonts for your LC24 Printar． 1 disk Ea3 50





Q，GOS TRUCxag OH Games





 ${ }^{\text {tham }} 1$ disk E350．

 C． 62 MONSTEA ISLLND A sintagy tyse afvertire abong the lines of
Dunjeons ans Dragors 1 Gisk $£ 350$ ．




1 Disk Progams $=83.50$
2 Disk Pograms $=\{4.50$
7

PLEASE NOTE WE STOCK ALL CLA TIRES

## ADDITIONAL PRODUCTS

## WE STOCK <br> FRED FISH 1 － 890 <br> WE STOCK <br> SCOPE 1－221

 PC TASK V2．0
THE A64 EMULLATOR Latest version．0 for all Amigas transter－complete package

- funs taster than oripinal －runs taster than or + E1 08 p UK． Soturure on all Amigas． Supports VGA，but SVGA on
AGA machines．Reguires AGA machines．Requires
min． 1 meg RAM + MS DOS


A570 ADD－ON CDTV DRIVE Turn your $5001500+$ into
CDVP Ru CD pross or

DISK PRICES：
$1-2$ Disks $=52.00$ each， $3-15$ Disks $=\{1.50$ each $16-24$ Disks $=\{1.25$ each， $25+$ Disks $=£ 1.00$ each
Overseas orders welcome payable in sterling please．
Cataloguc disk $£ 1.00$ Fast，reliable friendly service． Make chequesjpostal orders payabie to＂DEL．TRAX PD＂

POSTAGE \＆PACKING：
$\mathrm{UK}=60 \mathrm{p}$ per order；
Europe $=+20 \mathrm{p}$ per disk：R． $0 . \mathrm{W} .=440 \mathrm{p}$ per disk

|  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

DEPT（AC）

[^8]Address．

DELTRAX PD（AC），
36 Bodelwyddan Ave，
Old Colwyn，
Clwyd LL29 9NP

CD32 GAMES CONSOLE


## iviscicilumioi <br>  <br> AT A FRACTION OF THECOST!

Now you can produce stunning high quality colour outputs on paper, transparency film or even T-shirt transfer paper from your Amiga. The Primera colour printer, recent recipient of countless awards in the IBM-PC and Macintosh markets, is also the perfect companion to any Commodore Amiga.

Primera uses thermal wax transfer technology, a technology usually associated with much higher priced printers.
primera features

- Software drivers for Amiga, PC and Macintosh
- Prints A4 and A44 size paper and transparencies

Monochrome ribbon cartridges available for economical text only printing

Print full colour 24-bit photographs
Optional Photo-Realistic upgrade kit (Dye-sublimation)
Produce photographic quality images for a fraction of the cost of similar devices

Extremely small footprint, not much larger than A4

## Primera printer <br> ع825

Photo-Realistic upgrade kit ............ع215.95
Photo-Realistic refill kit ( 100 prints) .... $\mathbf{\Sigma 2 5 0}$
Photo-Realistic refill kit ( 25 prints) ...£79.95
4 Colour ribbon ( 80 prints) ................... $£ 38.95$
3 Colour ribbon ( 115 prints).................ع38.95
Monochrome ribbon ( 400 prints).......£34.95
Transparency film (A4 50 sheets).........ع31.95
Primera premium paper (A4 200 sheets) $£ 18$
T-Shirt transfer paper (A4 10 sheets). $\mathbf{£ 1 7 . 9 5}$
FARGO
telephone 0234843388


Power Computing Ltel
Unit 3 Railton Road
Woburn Road Ind. Estate
Kempston Bedford MK42 7PN
delivery: next day $£ 5.00 \quad 2-3$ days $£ 2.50$ Saturday $£ 10.00$ deliverioc are subject to ttock availabilisy, all prices include VAT, E \& OE

Rapid House,
54 Wandle Bank, London SW19 1DW
Tel: 081-715 8866
Fax: 081-715 8877


PHONE OR FAX FOR OUR COMPLETE PRICE LIST
Carriage charges: $£ 2.50$ - Post $£ 4.50$ - Next day courier
E\&OE
Call our credit card
hotline for immediate despatch.
Orders by post: Please make your cheques
payable to 'Emerald Creative Technology Ltd' and allow 7 days for clearance.
Goods are sold subject to our standard terms and conditions of sale and are available on request.
Specifications and prices are subject to change without notice.
All prices include VAT
Credit Cards not debited until goods are shipped

While perusing programs on past and present CoverDisks, you can't have Lad to notice that with every program -res is invariably an attached text docuPrt telling you how to use it.
These text documents have been with 1- Amiga since the dawn of software and -re affectionately become known as TMe docs.
The ReadMe doc is still used now and Peimply a text file that the programmer written in order to explain his or her Ptrare without the need for a complex traval. The docs are loaded into some find of text viewer such as More, PPMore - UuchMore.

Unfortunately, these text viewers often Wiow only forward and backward -olling with no cross-referencing abiliand no menu in which to select a spet topic. However, with the release of Fribench 3.0 all this has changed and nir)be, at last, the ReadMe doc will me a thing of the past.
The core to this change is a program Hed MultiView that resides in the tlities drawer of Workbench 3.0. itiview is a universal application that ins the user to read IFF text files, view mapped picture files, play IFF sound sand read AmigaGuides.
arder to understand these file forits MultiView relies on DataTypes ich describe the format of the specific They are found in the DataTypes drawer.
Providing you have the appropriate aType, running the above files through altiView shouldn't be a problem. Wurever, the most powerful part of WitiView is the AmigaGuide and it is that I will be explaining in detail.

## ESSENTIALS

order to follow this tutorial you will certain files on your Workbench You will need Multiview, the nigaGuide.guide DataType in your vs:DataTypes drawer, AmigaGuide wary in the LIBS: directory. datatypes. Irary in the LIBS: directory, and some $d$ of text editor such as Ed, AZ or Word. With these files you will be able follow the tutorial with no problems. $r$ convenience, I will be using Ed .
An AmigaGuide is very similar to a ladMe doc in many respects but prois some crucial improvements. Instead simply scrolling backwards and forwirds you can now, click on buttons in -rier to go straight to certain topics, use Frons to add cross-referencing points ne format text as you would with a pro-- ional word processor.

The AmigaGuide.guide DataType also ades a useful menu for controlling or AmigaGuide much like that of a tribuse.
To become fully proficient at writing gaGuides you will need to learn the mage. Don't worry, it isn't difficult at

In order to create an AmigaGuide you mast first load up your text editor, in our

# Books 

# with 

At last, the secrets of the AmigaGuide are about to be let loose. Steve White delves deep into a text creator that could buttons change ReadMe docs forever!

case Ed. Open the Shell and type the following, pressing Return at the end:

## ed ran:OurGuide

This will create a text file in RAM called OurGuide. You will be presented with the editing window for input and are now ready to create your first AmigaGuide..

An AmigaGuide is broken into pages, called Nodes. You can assign a button to a Node and when you click on it it will jump to that page. Each Node (page) can have as much text on it as required, and you can scroll through the text using the horizontal and vertical scroll bars of MultiView.

A page begins with the Node command and ends with the EndNode command, your text being written in between the two. We will examine these two commands in greater detail later on.

The first thing we have to do is tell MultiView what kind of DataType this is. We do this by typing the following line:

## aDATABASE anigaguide.guide

The (1) symbol is used to tell MultiView that the following text is a command, in this case DATABASE. This informs

MultiView that the file is a database and that it should load the AmigaGuide.guide DataType in the Devs:DataTypes drawer. Because of this, MultiView now knows how to run the file when we load it.

The next command is REM or REMARK and these can be entered anywhere and are simply used as reference pointers for you, the programmer. They are ignored when the AmigaGuide is executed. Type in the following command using your own name:

## zeER Aaiga Conputing Anigabuide - <br> by Stepten White

WORDWRAP is the next command that we need to type in. You don't necessarily need this command but it makes life easier when writing the AmigaGuide. What it effectively does is wordwrap any text that floods over the MultiView screen dimensions much like a word processor does.

When writing your text in Ed you will notice that you can continue writing past the right margin. The Wordwrap command pushes 'overhanging' text onto the next line. So, type in the following to finish the setting up procedure of your AmigaGuide:

## avORDYRAP

We mentioned Nodes earlier and said that they indicate specific pages of text. In order for MultiView to successfully run the AmigaGuide we need to create a menu Node called MAIN which MultiView then looks for and runs as a contents page. You can then call subsequent Nodes by any name. You must not have spaces in a Node name. Type in the following:

## amode maill "Ky First Anigaguide - Intro"

This line creates a Node called MAIN (the contents page) and titles the window "My First AmigaGuide - Into". MultiView displays all AmigaGuides in a window. We can now learn about and create a couple of buttons and some text.
Text can be entered anywhere and requires no command statement. Anything not preceded with $a$ e is understood by MultiView to be text. To add some text type in the following;

[^9]

When you load an AmigaGuide Multiview provides a basic database menu environment. Contents selects the MAIN Node. Help brings up the AmigaGuide Help file and Browse, <Browse> allow you to flip back and forward through the pages

Don't worry if your text scrolls off the right margin in Ed because we have invoked the Wordwrap command. Now save your AmigaGuide (do this regularly from now on).

There are certain formatting commands you can add to text in order to make it bold, italic or underlined and we will explain this procedure later in the Advanced section. Next, let's create ourselves two buttons.

In order to create a button we must link it to a Node. Buttons are simple to create and are very user-friendly. First type in the example below:
ar"click of for Helpo LISK HELP)
at "tlick he for Info" LINK INFOS
The above two lines will create two buttons for us. Let's find out how.

The ©이 indicates that what follows is intended to be a button. Whatever text is in the speech marks indicates the button name - this can be anything you like. The LINK command tells MultiView to link the button with a Node (in our case called HELP and INFO). When you click on the buttons MultiView will jump to the corresponding Node. The I ends the button command.

As this is all we want on the MAIN (contents) page we must inform MultiView to stop reading any more commands or text into this page. We do this with the following command;

## aEnowode

We have now defined an AmigaGuide Database and created our first Node, text and buttons. We can now enter the other Nodes - HELP and INFO so that when we click on the buttons MultiView jumps to these Nodes. Type in the following; The above text describes the two Nodes HELP and INFO.
aNODE BELP "Ry First AsigaGuide - Help*

## Help Page

This is the help page that I have written and linked to the main contents page. I know how to set up an Aaigafuide as vell as creating text and buttons.
3ENDTODS
aNODE INFO "hy first knigaguide - Info" Info Page
I have vritten this Anigasuide using the Mettiyier progran and the Anigabuide.guide Datalype in the Devs:DataTypes draver. Good, isn't it? aERDVODE

Your AmigaGuide is now ready to run. Quit out of Ed and then load up MultiView. Open up your AmigaGuide (OurGuide) from RAM and you will see your MAIN page with the buttons and text. Note the title in the window bar.

Now you can click on the buttons and you will be taken to the appropriate Nodes. To get back to the MAIN page click on the Contents button at the top of the MultiView window. This and the other buttons are always available as they are part of MultiView.

## Text formatting

Text can be in bold, italic, underlined or all three. Look at the examples below. You could apply them to your own AmigaGuide:
a(b)This text you are reading will be in BOLD
afithis tert you art reading will be in ITALIG
afulthis text you art reading will be undertineo
You can turn off bold, italic or underlined at any time with the © $\{\mathrm{u}\}$ command which stands for Undo. Look at the examples below:

3(ub)This will turn off the BOLD comeand afui3this will turn off the ITAliC

## cotsand

afuu)This will turn off the UMDERLIME consand
Below are some actual examples of text formatting with samples of how they would look in MultiView:

Here is sone a(b)botd tertatub) for you Hert is sone bold text for you

Here is sone afi)italis text forifui) you Here is sone ftalfc text for you

Here is afulsone underlineda(uu) text for you
Here is some underlined text for you

Here is an a(b)ati\}atutexample of alla\{ubla\{ui)atuu) three
Here is an example of all three
Buttons can be entered in betwet text to act as cross-referencing pointl Below are examples of cross-referenci buttons and how they would look whe loaded into MultiView:

This is an example of a af'CrossReferencing* LIMK (ROSS) button This is an example of a Cross-Referenctis button

Obviously, this button is LINKed another Node so that when you click or MultiView would skip to the appropria Node, in this case called CROSS. cannot use text formatting on buttons!

There is a way of creating buttons are not LINKed to any Node. These be useful simply as menu titles. T retain the button look but when you on them they do nothing and are use purely for cosmetic purposes.

## atThislshCosneticButton . LINK)

You cannot have spaces in the buth name because a space indicates a terminator (anything after the space ignored). The , is a neat way of indicatin the end of the button title.

## Command summary

## @DATABASE amigaguide.guide

informs MultiView that the file is an AmigaGuide file
@REM indicates reference text which should be ignored when the AmigaGuide is executed
@REMARK same as above
@WORDWRAP wraps text that floods off the right margin in the MultiView window @NODE <TITLE> <Window Title>
informs MultiView of a new page called <TITLE> with a window title called <Window Title>
@ENDNODE informs MultiView that the
Node page has finished
@TITLE $<$ Window Title> performs the
same function as <Window Title> in try NODE command
@\{"Button Title" LINK <NODE title>\} creates a button called <Button Title LINKed to the NODE called <NODE Title>
@ \{ButtonTitle . LINK\} creates a buthor called <ButtonTitle> LINKed to nothing © $\{\mathrm{b}\}$ indicates start of BOLD text © (i) indicates start of ITALIC text $@\{\mathrm{u}\}$ indicates start of UNDERLINE: text
@ \{ub\} turns off BOLD text
@ \{ui\} turns off ITALIC text © \{uu\} turns off UNDERLINED text


It is imperative that you have a Node called MAIN. MultiView looks for this Node and uses it as a contents page.
Without it MultiView will fall to load

You can create stand-alone buttons as well as cross-referencing
buttons. Unfortunately, there is no way to actually add text formatting commands to elther of them

Text can be formatted using commands much like those found In a word processor. By adding these commands to your text you can improve the layout considerably CONTACT US NOW FOR YOUR FREE COPY


AMIGA 4000 SPECIFICATIONS


| $2 \ldots 80 \div-2899$ |
| :--- |
| $2 * 130 \div 5949$ |
| $2 *$ |

4．80ㄹ．e999 4－130：§1049 4．214：－£1149 40 340：$£ 1249$ 4． 540 ミ $£ 1499$
6＂${ }^{25000} 68040$
6．214－£1999
6． 340 －£2149
6．525：－£2399
RAM UPGRADES
CALL FOR PRICES

## AMIGA 600

LEMMINGS PACK


1

## AMIGA 600



AMIGA 600 нo
EPIC＋HARD DRIVE


AMIGA 1200 PACKS＋HARD DRIVE
RACE＇w＇CHASE DESKTOP DYNAMITE




2．RACE NV CHase $0: 5299$
2 关 $\quad 0=£ 349$
2． 642 2449
2．85：£499
$2=85=£ 549$
2． 127 －E529
2．127 2579
2． 209

HARD DRIVE OPTIONS
momenatition


|  |  | NOW WITH FREE TITLES <br> DANGEROUS STREETS $\qquad$ |
| :---: | :---: | :---: |
| CD ${ }^{32}$ SOFTWARE |  |  |
|  | －32－EIT PONER The worls trut C0 ACM ansale to int <br>  <br> 2ve raU <br> CD QUALITY STEREO SOUND <br> 163 MLUON COLOUR PAETTE <br> －GAMES FRCM BELOW eza <br> －PLUGS INTO A TV OR MONITOR <br> －PLaYs music CDs <br> －DUAL SPEED <br> Traviens data sinoer twica as las as ortary CDPMOM drves | －Full screen VIDEO－CD EAFIY 9 Oppisul eati nodite atial ables yeu bis wixh live on he Come－templitie nits <br>  INC．Nomatia Milph und Sowy <br> － 11 gUTTON CONTROLPAD <br> － 5 FAEE CD TILLES <br> －ONGEROUS STMETI＊OSCVI <br> －wriccovenvora acionea <br> PUS PHEE FROMSUCA LEvullas Co Wort 52.20 <br> －compatiaf withzecotv tiles |
| Hitasafoman Aos＂ <br>  CALL FOR A PAVEE LST | －MULTISESSION <br>  ifforrabor wat adbes reter mar gresum |  |

## SHLICA

## SILICA－THE AMIGA SPECIALISTS

\section*{| Before you decide when to buy your | －SHOWHOOMS： |
| :--- | :--- |
| nea Anriga corrouter，ee suggest you | We tave femmestration and trairing tacilies at all our stores． |} THE FULL STOCK RANGE：

Al of your Amiga requirements are avalable from one supplier
－FREE CATALOQUES：
WHI be maibe to you with special reducad price Amige offers，as
wel as datails on all Amiga sothure and perigheras．
－PAYMENT：
We accest most major credit cards，cash，cheque or monthly terms
（APA $29.6 \%$－witten quodes on recuest）


COMMODORE APPPOVED UPGRADES：
she werranty
PREE OVERNIGHT DELIVERV：
On ail tardure orterrs shigped in the UX maitand
TECHNICAL SUPPORT HELPLINE：
PRICE MATCH：
Wi match competitios on a＇Same prod
ESTABLIBMED 15 YEARS：
Wh heve a proven track record in professional computer salas
－PART OF A Esom a VEAR COMPANY，
With ovet 200 staff－We are soid，reiable and proftable．
CORPORATE A EDUCATION DIVISIO

## MAIL ORDER

## CROYDON SHOP

LONDON SHOP
LONDON SHOP
SIDCUP SHOP
ESSEX SHOP
IPSWICH SHOP


## PLEASE SEND A 64 PAGE AMIGA COLOUR CATALOGUE

$\mathrm{Mr} / \mathrm{Mr} /$ Miss／Ms：．．．．．．．Initials：
Company Name（if applicable）
Address
UNBELLIEVABLE GIVEAWAY



Although a long time coming，the Amiga has at last found a reli－ able and friendly method of con－ verting Adobe Type 1 fonts into colour， anti－aliased Amiga Diskfonts－otherwise known as ColorFonts．
For those not involved in Amiga art，pre－ tentation or titling such a prospect will tardly generate unbridled excitement． However for those who fit the bill such a development is well worth the wait．
OK，lets assume you＇re still not con－ vinced－after all there＇s a lot of reasonable quality bitmapped fonts already out there which will do a respectable job for various rideographic endeavours．
However for the pro and semi－pro，pro－ ductions respectable simply isn＇t good enough．Clients quite rightly expect the best and that＇s exactly what $A 2 A$ offers．
Before moving on to the conversion pro－ cess，it＇s perhaps worth clarifying why A2A conversion is so important．Basically， PostScript fonts are fine for DTP but for anything else they＇re next to useless as the vast majority of software simply doesn＇t support them．
Even notables＇such as Scala，Broadcast Titler II，TVPaint and DPaint－to name but a few－will have nothing to do with Adobe fonts directly．And if such fonts are con－ verted by normal means their silky smooth appeal is invariably destroyed by the lack of anti－aliasing．
According to the manual，approximately 25 per cent of PD Adobe Type 1＇s won＇t convert properly，as they don＇t adhere to the Adobe standard－but after extensive testing of PC，Mac and Amiga fonts I didn＇t meounter a single failure．．．
If you＇re concerned about font availabil－ ity，turn to the PD section and you＇ll dis－
cover massive selection to suit every con－ ceivable taste．However if you simply can＇t wait there＇s no need for panic，as two extra disks containing 52 Adobe Type 1＇s ship with A2A．

Assiuming you＇ve loaded a font，you＇ll be confronted with the program＇s split screen interface which consists of three preview windows showing the anti－aliased，Amiga and cached examples of the font．The upper half holds the main control panel．
Working from left to right，the upper panel is split into four sections with the first concentrating on display and palette con－ trols in addition to four resolutions ranging from lo－res 32 colour，lo－res interlace，hi－res non－interlace and finally hi－res laced－each of which can be toggled between at any time．

## SMOOTH EDGES

When it comes to palette control you＇re provided with a pop－up requester full of colour wells，copy，paste and spread options alongside a variety of tools designed to sim－ plify colour control．It＇s even possible to load palettes from existing graphics to further enhance anti－aliasing．

It＇s here where you can also specify the number of colours to be used．However it＇s worth stressing that the fonts generated are basically single colour creations which use the additional colours to generate smooth anti－aliased edges．In short you can forget
any aspirations towards wacky gradient fills or bizarre patterns－that ain＇t the way it works．
In the next section，font styling is han－ dled via point size，aspect，italics，filtering and contrast controls．Point size provides overall scaling of the font from 1 to 250 per cent．Although the feature does a perfect job of scaling any font，it＇s the only area in which the program falls down slightly．

Rather than adjusting the scale to a spe－ cific point size，the font is scaled as a per－ centage，and as a result scaling isn＇t point accurate．So for example，scaling up to 150 won＇t necessarily produce a font of 150 points－which obviously could cause prob－ lems later on in the production．

Next up comes aspect，which in simple terms means you can squash or stretch in the horizontal plain．Following that comes the italic option allowing angles in either the positive or negative up to 45 degrees．

Following this are the essential filtering options－otherwise known as anti－aliasing －which take the form of five different fil－ ters，each of which applies a different style and degree of anti－aliasing to the font．

Finally we come to contrast，which again is used to improve the anti－aliasing．Like all the other options，contrast shares in the ben－ efits of the program＇s excellent interface which uses arrow gadgets for minor adjust－
slider driven alterations－and if that＇s not enough，you can even type in you alterations． In the next section you can toggle through the entire character set in addition to altering the position of the font in the preview windows below．

Lastly you can specify whether to send a single character or the entire set into a mem－ ory cache；not an essential feature on faster machines but ideal for improved editing and font processing on slower Amigas．

In the last section you＇re given the essential loading and font generation options along with assorted font information．Basically that＇s about it．the actual output process is very sim－ ple with the only user input being the font name and target directory．Prior to output it＇s also possible to specify that bold，italic，under－ lined and reverse flags which are used as part of the font definition，thereby enabling certain applications to generate the aforementioned variations．

However this function won＇t work for every package，as most programs have an individual approach to fonts．For example DPaint won＇t recognise any of the aforementioned flags， although the basic font you gener－
ate works perfectly．

## The bottom line

I＇m impressed－the program performs beautifully，the end results are excellent and the interface personifies the very best of Amiga software design．For the pro it＇s worth every penny and at just £50 it＇s well within reach of the hobbi－ est．A great product which I＇d recom－ mend to any serious Amiga fan．

Better still，Alternative are now offer－ ing a combination of A2A and Scroller II －their own A2A friendly video titter－for a special bargain price of $£ 100$ ．Great news for any videographic newcomer who wants quality output at an afford－ able price．

Supplier：Atternative Image Tel： 0533440041 Price：\＆50


A quality interface combined with excellent end results

## UTILITIES

U001, A. A. Gene ( 1 meg
U016. Biorhythms (1 meg) ). $\qquad$ Trace your ancestors U052. . Business Card Maker $\qquad$ Chart your towelings U092...Catoon Brushes........................ of temple. bus characters U098... Database Master. t U123.... 10 Tester. $\qquad$ How thick are you? U128.... Viz Clip AT. $\qquad$
$\qquad$ Roger Many in D Paint U130..... Label Designer $\qquad$ Various label printers U134 ....Anil Cash. $\qquad$ Best accounts package around U136 ...Anibase Prof U140 ...Text Engine. $\qquad$ Excellent database U142 Super Fonts. $\qquad$ silent word processor 0152. PC Tass $\qquad$ U153. Fle-alax $\qquad$
$\qquad$ ales $\mathrm{BM}+\mathrm{PC}$ programs U154. OED $\qquad$
$\qquad$
$\qquad$ Beginners
U160...Detiuxe Pant Tutor. Enhance your knowledge of his U164... Word Dazbank $\qquad$ Creates maps of the world U165.... -graph . $\qquad$
$\qquad$ ....Creates bar graphs U175...Text plus VERSION 4 $\quad$ Exotlent word processor U178....|2 Discs) Artificic ALC - [2 Discs) Best spreadsheet available U179......alorie BiSe... Work out your own calorie intake U180 GCSE Maths $\qquad$ Syllabus tapirtrsk 1185 Astronomy .... Clucultes positions of planets U190 ..Shadow demo maker. $\qquad$ Create your own demo
U194 Total concepts
Lear about onosaurs
$\qquad$ U204. Pace Rato (fl)......... horse rating information U206... ABC Adventure Creator (N).....Creace your own abianture games U210. Pools Pools Version 2. 2 Create you Work out your winnings U211... Training tog. $\qquad$ U212... Back Talk.
U217.... Waste titch U217.... Mattie IVbick. $\qquad$
$\qquad$ Golf score recorder U230 .... illinois Labels. Studio. $\qquad$
$\qquad$ Crate l Cartons
 U233 ...Engineers Kt. $\qquad$ U236. Word Power.. $\qquad$
$\qquad$ Check your Amiga System U237. Stock Analyst. $\qquad$ Analyses the share market U238.... Font Farm. U239... Dunks DTP U240.... Lithe Office. $\qquad$ Worm Promenskion Publishing for Kids U241.... Winemaker U242 . Budgets 1.34 11243 D-Soke U244 Colour The Alphabet. U244 Lockic V20 U245 .....flo Kick V1.4. U246 ....Magic Workbench..
$\qquad$ Educational spelling game
$\qquad$ Uncover copy facilities U247 Sun Calculator Ciliates position workbench alterative U248 .. ..Uni Convention.

Wades position of sunn within 2 minutes
Works out volumelsnemd

0058..Enterorise leaving dock
demos
0075. Girls of sport Pretty stats it that ed ext
 D166... Star Trek Anirrations..................ims. of USS Enterprise $0177 .$. Star Trek Animations._ Agatron no. 17 More like above. Good D271 _Odyssey ( 5 disks) (M) _ . Excellent space adventure animation D278 ....exert Storm $\qquad$ $\ldots-\ldots-\quad \ln t$ information on Guff War D280.......esus on 'Es' (2 disks) (N).. $\qquad$ Excellent rave music D282... How to skin cat. $\qquad$ Amusing demo

D287 ....Calendar Girts ...

## MUSIC

M038. Hugo's Eccentric (N) $\qquad$ .Four songs imide house mixes Mo62 Random Access (il) ._._................ songs including Att Ot Noise (M102. No Limits (2 Disks) Quality music compilation M104. Opener $\qquad$
Diet Excatent music compilation 1244 _Sound Tracker Samples (4 Disks) _._. 100 s of sounds for sampling U249. Sound Elects. Different samples for music making

## (c) AMES

6005 ...All New Star Trek (2 drives, 2 disks), USS Enterprise classic. Best one 6010 Breakout. 6011 Blimand Horizontal shoot-elm-up. High quality GO14 ...Adventure Solutions (2 disks)..Loads of hints of commercial games G019. Dungeon Delver (2 disks) $\qquad$ .Oificuit adventure quest 6021 .-. Demolition Mission (1 meg). $\qquad$ Similar to Balloonsey, good tun 6023. Electronic Train Ser (1 meg) - Construct own train set C043. Learn and Play $1 . \quad$...... Good tor the kids. Blackboard maths etc. 6044. Lear \& Play 2-..................... fun for the kids 6047. Lettra $(\mathbb{N}) \ldots$ More tun for the kos 6063. Mayhem $\qquad$
$\qquad$ Brilliant shoot-em-up G065...Pxie Kingdom (2 disks) Tricky adventure game. Good 6071 .-Return to Earth ( 1 meg). $\qquad$ Good genera knowewletoe curt
6086 ....Writhed One. $\qquad$
$\qquad$ eneral knowledge quiz G102 . Simulation 1 (1 meg).......Recommended. 5 games including Metro
G109....Wheel of Fortune. TV Quiz, computerized $6109 . \quad$ Whet of Fortune.
$6124 \quad$ Napolencic Warfare G143.... Card Shod $\qquad$ High-quality simulation G143 ......ard Stop..........
6149, Raphats Revenge.
6153 $\qquad$ Well presented card games
$\qquad$ Difficult platform adventure G153 .Growth...
6155 Mission $X$
$\qquad$
$\qquad$ Quality shoot- -im-uip G157. Ouadrix.(V)
$\qquad$
$\qquad$ Prate a chilitp puzzle game G162. Storyland 2 (V) Create a childrens adventure
 G170... Amos Criket
G171... Top Secret. G175..Whiz Wall ............................................. Wizard shooting game
 G180. TanikAtack ( (I) ..... World War 2Simutation
G197 All Rounder (M) G197 ....All Rounder (IN) $\qquad$
$\qquad$
$\qquad$ Cricket simulation game
G204.... Super League Manager $\qquad$ Manage your own Soccer team G207 ...Flycatcher $\qquad$ G209.... Games Galore Ten (M)
$\qquad$ Find the flags. Very addictive 6209 Games Galore Ten (IV) $\quad 14$ excelinterent G214... Parachute Joust. $\qquad$ .Try \& catch a parachute G215. Betlements. G217.... Act of War.
...Hunchback game Excellent strategy game
6218.... Roulette.
$6219 . .$. Space Rescue $\qquad$ Guide Spaceship through Terrain 6220 Sind Attack (N) Also landmine + bomber 6221 Revenge of the mutant camel Shooting game 6222 ....ieghtours adventure -...-. (2 discs) Bring Paul Robinson to court
 G224....Straticic Games ..................................int games G225... Addams family Quiz. $\quad$ - $\quad$ Quiz on cut TV programme G226. Dual 2 pfizer shooting game G227 -Assassins 24 (N) $\quad 4$ games including 30 Mare 6230. Assassins 27 (N). $\qquad$ Addictive card games G231 Assassins 28 (N). These include Dr fIlaria. Invaders 28 Mad Bomber 2 G240 Assassins 37 (N) Ghost Ship, Clatris etc
 6243...Tetren.
 6245 Iron Class (2 disks) _- Graphic adventure G247.... Quiz Master .- Quiz which includes Editor


 $6252 . .$. Bombjacky....................................... the dying planet G255 Amos Games. 5 Games including Glasstack G256. Slamball ......Management pane of US football. Type Sport 6257 ...Relays Shareware game. Brand New!
 6300 Blob............................. am up


 6306...The Funhouse............. 3 games including Eng ma


$6310 \ldots$ Ply con (2 disks) $\qquad$ Very similar to pipeline
Space shoot em up
6312 . Rasta Bike. $\qquad$ Space shoot em up
 G319.... Mega Race And Wacky Rabbit : Compilation G324. Psycho Santa............. G325 ...Mister Men Olympics (2 disses) Excellent game for disks as reviewed in Amiga Computing
6326...Wible World Giddy. in Amiga Computing G326. Calculus Combat ....... G. Good missile command type game G327...Muggsy's revenge...Rolepley a gangster during prohibition years 6327...Tetris Pro T..Tetris game with exceptional variants

## AT 2000 on nw

U235.... Sleepless Nights...
Compilation of A1200 uttitbes D285...Fairlight. 29 meg of graphics on one disk D286..... No point of sale $\qquad$ Sinning French demo D288 ...Revelations Photo realistic slideshow

 0291._Lethul Exit.
0310.... Nigel Hansel $\qquad$ AGA side show
G321... AGA Klondike (3 disks).....Erellent patience card gameG322...Giger Tennis.
G322... Wiper Tetins
G323..U Chess

0300 Technerticlil


## Blank disks 10 for $£ 5.50$ or 60 e each

## CATALOGUE DIKE

75 peach
Details of over 1500
details of over iso
disks in


## PRICES

PD....£1.25 per disk or $£ 1.00$ each for 15 or more.

Send cheque/postal order made payable to

## SOFTWARE EXPRESSIONS,

Unit 4, 117 Kennington Avenue, Bishopston,
 Bristol BS7 9EX
Gam- 5pm Mon to Fri
special OFFER 25 disks or more at 90 p each

# NIGA patie 

 or quite some time ADPro and ImageFX have been battling it out for the image processing top Now thanks to the release of ageFX v1.50, the war enters another e thanks to whole host of improveits and add-ons.thive GVP finally weakened ADPro's ingle-hold on the market? Only time III tell, but rest assured that the battle the hobbiest market has never been Tr closely fought.
Ohe of the most notable new features e program's ability to record macros its built-in command line or shell dow. Once recorded, macros can be Ind and activated whenever necessary meither the aforementioned shell or the IMP - ImageFX's very own multiressor utility.
Next comes improved palette control It a whole host of additional support third-party display devices plus speAmiga modes including AGA and t program's new Super Amiga modes Which I'll explain later. Third-party play options now include IV-24, Weo Toaster, Firecracker, Retina, pulVision, EGS and DCTV. Yet another

Now any scanner in the Epson range can be used by Image FX
aid to improved productivity is the program's ability to use multiple assigns within the ImageFX/Workbench environment. As a result you can now run user-defined versions from various directories.
Basically, this means that each time a
version boots it can have its own default preset for a specific operation such as scanning, frame grabbing, video production or whatever.
Pandering to professionals is also high on the agenda with pressure-sensitive support for assorted drawing tools such

as freehand and airbrush. However quite why a pro user would be painting within ImageFX as opposed to TVPaint, EGS or whatever else remains a mystery...
The program's preferences requester has seen some fairly major changes with a variety of new preview modes, a new quantise option - used from palette generation - plus a much improved virtual memory set-up procedure which is now simpler and more reliable.
Another important new feature is multi-level undo which enables you to back-track over an entire sequence of edits if disaster strikes - and of course,

# Raw <br> processing 

# Paul Austin looks at upgrades for ImageFX vI .50 and Clarity 16, both of which push the Amiga's processing capabilities to the limits... 

## Clarity 16

Ier the last year Clarity's software has evolved quite con-
berably - although the hardware itself has remained the Tev. As a result it's high time for a second look at this oressive and cheap introduction to 16 -bit sampling.
Athough a true 16 -bit sampler, Clarity isn't a direct-took system. This facility was promised as a potential trade when the product was first released but like many thential hardware add-ons it failed to appear.
S:II, even without a D2D option, Clarity remains a useful cording tool capable of limited Midi applications in addi-
in to a dump and fetch facility for various sampling mboards.
In lact the lack of the promised improvements to the udware is Clarity's only real drawback. After all, how any 16 -bit samplers retail for just $£ 99$ ? Not many...
However this doesn't excuse the hyperbole and subse-
unt disappointment that surrounded Clarity's initial
lease. During this period the product's creators made a
Ir of noise about various add-ons and improvements -


#### Abstract

none of which have materialised.


Everything from DSP support to software-based drum sequencing was just around the corner; even SMPTE timecode was on the cards alongside the aforementioned D2D recording.

As a result, many a muso invested hoping that their commitment would be mirrored by Clarity's creators. Unfortunately hardware revisions never materialised.

## ATTENTION

However the software has seen a lot of attention with the latest incarnation - v1.5 - boasting an all-new Workbench 2.0 look which now thankfully opens on its own screen, thereby avoiding the horrible clutter synonymous with its predecessors.

Another major change lurks within the Fast Amiga box. The old style box with delay values has been replaced with a simpler tick system which provides much more flexibility and control over the whole Amiga range.

All of the program's horizontal sliders, such as those in the Real-time Effects window, now have a numeric value enabling much more accurate recreation of previous set-
tings. The sample info requester is the most fundamentally changed; certain features have been repositioned to give a more logical grouping of icons. All of the Loop features have been put in their own box, and the Seek Zero feature has gone completely - in favour of various new loop editing options.

Generally the program looks much slicker, the only problem being that the manual pictures are now horribly out of date. The manual is currently being revised and should be available in its updated form by the time you read this article.

Normalise no longer produces clicks and is now a very effective way of maximising the volume of a sample. Recording is now exact (previously it left some space at the end of the sample).

One Amiga channel had a nasty habit of crackle during Amiga playback during real-time effects and scope use this has been fixed. All scopes should now work on most Amigas, even fast ones and needles are now always in evidence on the VU-style meters.

Kill Samples has been added to the Project menu. It

## UPDATES

## $>$

undo can still be disabled entirely when necessary.

On the user-friendly side an option to disable verify requesters has been added - no more "do you really want to..." messages - but better still GVP have finally added an aspect lock which stops the program stretching the image to fill the preview. So what you see is what your image actually looks like...

Image FX will now automatically default to AGA when running on Workbench 3.0 machines, but in addition the aforementioned Super Amiga modes can also play a part.

## THIRD-PARTY

Now any mode listed in the Amiga's display database can be used as a default preview mode, but better still third-party display devices can also be used as part of the preview repertoire. As a result DCTV and OpalVision can be used for previews in addition to the IV-24, Firecracker and HAM-E.

Frame grabbing and digitising have also seen some attention with support
for the entire Epson range of scanners in addition to the VLab digitiser. As you'd expect, the program's scan control options have been enhanced to take advantage of the additional features offered from the new hardware.

Moving on to creativity GVP assures that almost all the drawing tools have been either enhanced or improved in some way. As a result for now we'll concentrate on the newcomers.

As mentioned earlier, the palette has been improved with six new draw palettes each holding up to 256 colours each, but alas one aspect of painting within ImageFX hasn't changed, namely the actual application of colour.

Like its predecessor, the new program still insists on applying the brush stroke first followed the colour later after the operation is complete. As a result ImageFX still remains very much a second choice as a painting environment.

Until GVP realise that serious artists require real-time feedback, ImageFX will always be primarily an image processor with a paint package tacked on as an afterthought.

To be fair, the program's painting

## Good news for Yamaha owners

Due to certain compatibility problems with the Yamaha SY99 keyboard, a couple of new options have been added to the sample dump/fetch facility.

Ordinarily when receiving sample data from a keyboard under the Midi standard protocol, the individual data packets are acknowledged by the receiving machine. This allows for packets to be re-transmitted in case of error.

However, Yamaha have decided to ignore this and just pump out sample data in a continuous stream. This means that acknowledging the header and packets is not only redundant but also possibly damaging in terms of the software's ability to pick up all of the incoming data.

As a result SY99 users can now set this option to Off, whereas most users should leave it on.

Because the SY99 has no facility for recovering packets received with a checksum error, it can appear to drop packets from time to time when receiving long 16 -bit samples. This means that although the Amiga has finished transmitting, the SY99's display will still show it waiting for one or two packets, and pressing Exit leaves a click at the end of the sample.

If this happens, you can now set this option to On and Clarity will transmit one initial blank packet before the sample data and then five extra blank packets at the end.


Magical cut and paste with the new pantagraph tool
abilities do provide some very useful image processing options within existing artwork. For example it's ideal for adding special effects at particular points or within ranged/stencilled areas of the image.

A perfect example of processing combined with panting power is the program's new pantograph tool which enables an area of the image to be selected and then duplicated elsewhere on the screen.

## COPIED

This should not be confused with a brush as the original data doesn't change; it's simply copied or cloned elsewhere by using the tool of you choice to replicate the original data in its new location.

Generally speaking, most features have seen at least minor improvement as indeed have the program's I/O options which now boast more control and variety with support for FAXX, IMG8 and Sculpt along with much improved JPeg handling plus MacBinary TIFFs, GIFs, JPegs and Targas. Animation also scores
well with support for loading and sat both Anim5 and Anim7 in additior FLI and FLC PC formats - most monly used by AutoDeck on the PC

Another innovation is the arriva Magic buffers which if adopted by oet will enable various programs to the same image data held within $m$ ory - in a similar manner to HotLOnly time will tell if Magic buffers succeed where others such systems failed.

Finally the program's printing opta have also seen some much needed $s t$ tion with improved printing from prefs and as PostScript. And of cot with new features comes a huge arre additional ARexx commands.

For the existing user base I'd upgrading is a must as many of the p lems associated with v1.03 are gone for good to be replaced by impressive range of new and impror features.

For more details contact Systems on 081-309 1111.
clears out all of the samples currently in memory - subject to confirmation. Another new addition is the Tidy windows facility which resizes and stacks all open sample windows in the top left comer of the screen, while Panel to Front brings the control panel to the fore when obscured by others.

Assorted keyboard short-cuts have also been added; Amiga-I brings up a sample's Info dialogue, block looping can be activated with Amiga-T while Clarity/Amiga output can be toggled via Amiga-1 and Amiga-2 keys respectively.

Finally the Save file formats function have been extended to include three and five-voice 8SVX files. Previously only one voice was supported. As you can see the software has come a long from its initial release and now ranks alongside the Amiga's best recording and editing systems.

In short, Clarity is perhaps the perfect budget buy for anyone with a sampling keyboard who wants to expand their horizons at the minimum expense.

For more details contact HiSoft on 0525718181.


# 解 



CLEE2 TOTAL CONCEPTS GEOLOGY The ne is the second in the seriss of quality programs by Chris
hil. Using the Golidosk Hypertbok system, $A$ will guice you and your chidren on an interactive guided rour through the incredble world of volcanos, to
and minerals. the program is very simple to use !

CLEOS TOTAL CONCEPTS SOLAR SYSTEM Now our most popular tite I This one invites you to leam the planets a systems wath pictures suppliod by Nasa, adults. This titie is so big it is supplied on Three disks and is priced at only E4.99.

CLE05 A-CHORD So you want become the next Eric Cispton then this is pus what you noed I This program
wil teach you nearly including fingering teccininques, it wil even play the for every singie auitar player beginnec and a must alike. Price E .50 .


CLE15 FAST FRET By Koith Kiatworthy, Mis progran is a gutar scaiew silto, the very thing lor the buading
lead guitarist Will play, the scales through the Amigas skill required! There are many exencises in many icales soy you too can become the next rock legend

Cleoze PREnISTORIC FUN PACK This is a superi The containing four fun dinosaur games, Dinosideer ties puzzie game, Dinosaw is a josaw mamory
game. Snakes \& caves is the old tavourite anakes of ladders, and Eggstinct is a fun egg colecting game
Wit keep the kids amused for agess 1 disk $3.50 .+$

CLEOS5 TOTAL CONCEPTS SOLAR SYSTEM 2 in Ihis sequet to our most popular stee, Chiss Hil beings?

you the very latest on tie Solar Systeml All the very latest planetary missions are covered \&ily you shough you see these $40+$ imagesi This is a must it you have CLEO49 TOTAL CONCEPTS DINOSAURS 3 is the latest TC1 to pin this exellent series 8 uses a new ayout giving you a dino image 8 info butions onevery Velcocraptor. It you are at all intersestod in Dinosaurs tilis is a must to compita y your Dinosaus ibraryit Over | this is ages suppled on 3 disks only 4.99. |
| :--- |

 ClEOT TOTAL CONCEPTS FRESHWATEA FISHING 2 diss 4.50 EOO NIIGHT SKY Exellent suice to the stars. 1 diak 3.50
 LEI1 LETSLEARN For chiden O 1 S.7 years. 1 disix 4.50 CLE 12 ALPPABET TEACH spoling Ppogran for than hasisl dish 3.50 .



 CLE20 BIG TOP FUN Four programs i disk 3.50 . + , isk 1 disk 3.501
CLE21 JIGMANIA Jiggaw solving \& construction set! CLE22 CHESS TEACHERteach chess in a fun way! I disk 3.50 . CLE23 MIND YOUR LANGUAGE improve speech 1 disk 3.50 . . CLE24 SPEED READING Tests your raading speed 2 disks 4.50 . CLE25 CHORD COACH This is a supert Plano Tutar, 1 disk 3.50 . CLE26 SNAP. An oducational game for languages, 1 disk 3.50 .
CLE27 C.A.T.T. Superb Tarot reading program. 2 disks 4.501 . CLE27 C.A.T.T, Superb Tarot reading program. 2 disks 4.501 .
CLE28 FUN WITH CUBBY 6 superb games for kids! 1 disk 3.50 . CLE30 PEG A PICTURE Make pictures with pegs 1 disk 3.50 . CLE31 UNDERSTANDING AMOS( NEEDS AMOS) 2 disks 4.50 . CLE32 SPITFIREI The legendary WWII fightert 2 disks 4.50.t.
CLE33 MESSERSCHMITT BF109 And the German! 2 disks 4.50 . CLE34 YOUR FIRST PONY All you need to knowl 2 disks 4.50 . + CLE36 THE TME MACHINE Teaches kids to tell time, 2 disks 4.50 . CLE37 DISCOVERY AMERICA Learn about the USAL 1 disk 3.50 .t CLE38 HOME INVENTIONS inven5ons since 1750.2 disks 4.50 .+ CLE39 MY LITTLE ARTIST colouring book Needs 1 mg 2 disks 4.50
CLE40 BOREALIS JUNIOR Drawing for young children 1 disk 3.50 CLE40 BOREALIS JUNIOR Drawing for young children 1 disk 3.50 -
CLE41 BASICALLY MEDICINE Good helo with first aidl 2 disks 4.50 . CLE 42 COMPOSITION Pholograph Tutorial disk. 1 disk 3.50 . 4 LE 43 AMOS LANGUAGE QUIZ. Helps learn Amos. 1 disk 3.50 E44 PORTRAITURE 2nd photo tutorial program, 1 disk 3.50 . CLE45 FUN WITH CUBBY 2 Another 7 tab kids games! 1 disk 3.50 CLE46 BASIC HUMAN ANATOMY Good for education 1disk 3.50 . CLE47 SEA SENSE Learn all about boats! 1 disk 3.50 . +
$\qquad$

CLUIO POWER ACCOUNTS account statements, atc 3.50 . + CLU11 CALC V1 vary usetul spreadsheet programt 1 disk 3.50 .
CLU12 VIRTUAL WINDOWS Notabook Address book1 dak 3.50 . CLU13 DATOS A powerful database, many features. 1 disk 3.50 .
CLU14 STOCK CONTROL CLU14 STOCK CONTROLLEA Keep track of slocks 1 disk 3.50 . CLU16 CROSS STITCH good neediework program, 1 disk 3.50 . CLU17 LC10 FONTS Nice fonts tor Star LC10 printerl 1 disk 3.50
CLUT8 LC200 FONTS Fonts for your LC200 printer! 1 disk 3.50 . CLU19 LC24 FONTTS Fonts for your Star 24 pin printer. 1 disk 3.50 U21 INVOICE MASTER Sort out your imvoices! 1 disk 3.50 CLU22 HARD DRIVE MENU Superb hard drive utility 1 disk 3.50 . CLU23 F15 ANM BRUSHES Needs D paintl 1 disk 3.50 . + CLU24 RED LOTUS ANIM BRUSHES Needs D Paint 1 disk 3.50 CLU26 STAR VOYAGER ANIM BRUSHES for DPaint3 diskss 4.99 CLU27 IMAGE BASE Simple authoring package 1 disk 3.50 .
CLU28 CREATIVE ADVENTURE TOOLKIT Needs 1 mb chio CLU28 CREATIVE ADVENTURE TOOLKIT Needs 1 mb chip. 3.50 -
CLU29 G.FX. Oraphics corvertors, sprite editors etcl 1 disk $3.50+$ CLU30 DRAW SELECTOR V2 pools prediction prog 1 disk $3.50+$



drawingloolouring book, containing lots of background pictures, brushes to paste on, plus edtor to design
your own you can even add your own artwork to the picture. A superbly presented program, this one is a

CLUE3 TYPING TUTOR A program here now for all you budding affice clerks, learning to type can be a have an amiga ! This program wil take you stop by step through a full typing course, showing where to able to type as fast as I can I Price E 3.50

CU032 POWERTEXT 2 This is a superb \& powerful wordprocessing program, featuring embeoded speling checker, user delinable function keys.
wordwrapping \& much much morel You wall probably never need any more than this super product! Needs 1 mg of ram. 1 disk 3.50 .


CLG022 SPARX STOCKING FILLERS by
LenTucker, 3 super seasonal games for al the tamily Chrismajg is a testive version or iningamaig wuzles to sort outil Christmas pairs is a
iraditional "pairs" pame \& Santas sleigh ride is a own chimneys 1 disk 3.50 .

CLG030 CAPTAIN K This is an exalient plattorm game. The object of the game is to collect al the monsters. For this purpose you have an unlimited hort time bafore exploding, kiling any monsters pearby! 1 disk 3.50.+

CLG041 F1 RACEA This is a very protessional game. 3d graphics in a Formula one type vein as speed of your machine (it really zooms on an Amiga wth super graphics a sound! Very impressive game CLg042 CRYSTAL SKULL This was writen as a
 commercial release but was never releasedi it is a full 3d role playing "Dungeon Master' vpe game, speak t
passers by, kit them, investigate any one of 4
yramids with all its ghosts \& gobins. This will keep
p your interest for ages! 1 disk 3.50 .











D

CLASSIC CHIPART

 GMixtasianider








 HiN Dondererge



Wombat Mouticumitit





MaN 3 ©



victivationis or





Fisc h colour hires pictures 1200 onlylander



Pis 7 , JPEG lament/ These disks contains
 -acis 2 240 J pee Vista landscapes!



## - CLASSICAL MUSIC



AMOS PD



 Now er Nat is=



GAMES

ot CNAS now popery of
ty plapabivoparge yen








 Mar fin and and


 on BUSINESS

##  Maternal     Mun <br> $\qquad$ 




AMIGA CD ROM COMPACT DISCS!
 CDTV DEMO DISK Over 600 megabytes of demos, samples, games, clipart, 19.95.
animations \& 1000 modules to phr CPD 2 This CD contains Fred Fish 661-760, the Scope library 1-220, The AB20 CDPD3 This latest CD from Almathera contains Fidh761-s50,dans of $\quad 19.95$, CD DEMO COLLECTION II Exellect CD containing over 100 ready to ran NEW WEIRD SCTENCEMUITIMEDHA TOOLKTT Only ROSOM!





## COLOUR BRUSH CLIPART

## 

## 

##  <br> 



## 


 POWER ANIMATIONS

## 

## Then beta



## occult,astronomyaprediction













PLEASE MAKE ALL CHEOUES AND POSTAL ORDERS FIRST CHOICE P.D.
ALL ORDEAS DESPATCHED FIRST CLASS, PLEASE PLEASE STATE MACHINE WHEN ORDERING:
PDPAICES AREPEA DISK-NOT PER ILE. NUMBER OF DISKS IF IF MOAE THAN ONE) IS SHOWN

## AGA SECTION

AD19 TO A023 - WEIRD SCIENCE - Excelent quality
Pictures. (5 disis- avalable seoaralely) pictures. (5 disks- available separately)
ACR4-FIT CHICKS. A collection of giry


Pictures.
A030 - FERRARI PICTURES. Pictures of a new model
from the worids most exotic car maket Good 256 colour Pictures. colours. (2 disks)
G042-AGA TETAS - Controled with the cursor keys, this excellent conversion of posobably the most addicsive game over is now avalable with 256 colour graphics
$G 082$ - AGA CHESS - An excelent game but you wil need 4mb of fam to get it to worktl
Uoot UTIMATE BACKUP DISKK. This complation
 etfects lor wornbench V3.0
U118 - MOAE WOAKBENCH HACKS - Guess what?
U255-WB V30 INSTALL - 1 you need to install your dist then you noed this.
U255 - A1200 DEGRADEAS. An essential purchase tor AGA owners. Includes Fake Fast Mem, The Degrades
Diskstart Kil AGA V2 and Heiphil hints. U257-VIEWTEK V1.03 - An essential purchase allowing You to display AGA graphics.
U258 - HOMEM - This utily al
 FMU. MNU Etc U272- WORKBENCH V3.0 SCREENS - Improve the appearence of woiktench with hese excelent backitrops.
D181-TEAM HOI PLANNER GROOVE This was the worlds first ever AGA megademo.
D195. PANTARHEI - A new AGA amazing sound. graphics and colours.
D197- EAM HOI 2-Sequel to the firs ABOVE DISKS WORK WITH A1200/A4000 ONLY

## ASSASSINS

THE EXCELLENT VALUE ASSASSINS GAME COMPILATIONS TO ORDER QUOTE ASI AND DISK NUMBER. OVER 135 NOW AVAILABLE.


WHY PAY MORE THAN E3.00 FOR FONT DISKS WHEN FIAST CHOICE SUPPLY EXACTY TTE SAME FROM JUST E0.89
FONTS AVALAELEMN ADOBE TYPE TESTED O FNAL COPY WB + PAGESTAEAM V21 PROFESSIONAL PAGE V $3.0+$ PAGESETTER V3.0
$\begin{array}{llllll}\text { FD01 } & \text { FD02 } & \text { FD03 } & \text { FD04 } & \text { FD05 } & \text { FD06 } \\ \text { FD07 } & \text { FDo8 } & \text { FD09 } & \text { FD10 } & \text { FD11 } & \text { FD12 } \\ \text { FD13 } & \text { FD14 } & \text { FD15 } & \text { FD16 } & \text { FD117 } & \text { FD18 } \\ \text { FD19 } & \text { FD20 } & \text { FD21 } & \text { FD22 } & \text { FD23 } & \text { FD24 }\end{array}$
REMEMBER TO SDTATE SCALABLE OR ADOBE
EACH DISK CONTAINS AN AVERAGE OF 17
FFERENT FONTS. BELOW IS A RANDOM SAMPLE

NOPMAL DISK PRICES APPIY
NORMAL DISK PRICES APPLY
AachenBold AARCOVER BouhousBold Angm BIUBDARD Charro Arctic2 AvantGarde Cartoon Architect Caslon $0_{\text {penflace }}$

A SMALL SELECTION OF FONTS FROM SETS 1 TO 4

## MUsIC

Moor-Music woouses quasily music modules Al at good qualty musc modues for of with RS
soundracker sie vpe tor use
Demo maker, Noiseplayer and many

## EDUCATION

## Eon - Torat Coraceprs

 INOSAUAS . A book on diskappropriate for sensational Jurass EOMR - SCIENCE. Excelient leaming EOCS. FRACTIONS AND
SILHOUETES - Good maths utity E004 - WORLD WAR 2 - Good histion EDOS - WORLD GEOGRAPHY - VER useful ulitity
EOOO7, KiDS
DISK 1 - Excelent reading utaity
EOOB . LEARN AND PLAY 1- For
wounger amiga users very popula younger amige users very popular
EOOO-LEARN AND PLAY 2 - See above. Usualy ordered as a 2 dak set
EO10. GCSE MATHS. Good, written by a teacher of the subject.
EDII. LANGUAGE TUTOA.
Spanish, German and Italan Spanish, German and halian,
EDI2-AMIGAwORLD. This piece
educational software contains detalis

## DEMOS

D004 - ARSEWIPE - Hilarious iotet roile commerciat
D007 - FILLET THE FISH-Carfoon
animation animation
DO19 - SIMPSONS SUDESHOW Pictures of televisions wacky tamily
DO23-PUGGS IN SPACE - Another cartoon animation from the same DO25 - SAM FOX - Sldoshow
DO35- AUDE NOISES - Hlarious DOMples. FAST CAAS - Pictures of the worlds most oxotic cars
DO74-MADONNA LIKE A VIRGIN Music put to naked sidioshow of Madonna
DO91-SAFE SEX DEMO - Hianous mixed sampies.
D114-NEIGHBOURS SLIDESHOW Vory old but still amusing pictures of the cast with drawn on special effect
D121 - GIRLS ON FILM - Digitised D129 - SHOWERING GIRLS - Colour gigitised sideshow
Di38-WAR SIMJLATER - Samples that could get you a day oft schood or it down the phoneil
D198-BASIC INSTINCT - Dignised gictures from the film.
Dise - STRIP SLOT MACHINE

## VIDEO ART

 Hie HuRECON Noeo Nar



## VIIRUS MKILLEER

## commended as if could save you

 Es. Essential tor hard disk owners.With no virus protection you are puttit
our entie sotus to your entire software collection at risk Regular updates to keep in touch with
all wrus activty Separale versions for All our disks are virus tree.

## DISK PRIICES

## AND POSTACE RATES

SINGLE DISK £1.85 INCLUSIVE P\&P 2 - 15 DISKS ONLY £1.25 EACH 16-25 DISKS ONLY $£ 1.00$ EACH
$26+$
DISKS ONLY 1.89 EACH

POSTAGE IN UK £0.80 PER ORDER P\&P FREE ON SINGLE DISK IN UK ONLY

# ALL DISKS COMPATIBLE WITH ALL AMIGAS <br> WHEN DISK K001 - DISKSTART V1.3 IS USED ON A500+/A600/A1200/A4000 





 doman version of this card game.

## GAMES

G010 - POM POM GUNNER - Great shoot om up.
GO11-AIR ACE 2 - A great World War 2 shoot om up
GO13. THE REVENGE - Play ED-209
then UP. - MEGABALL - A game that has received excelient reviews
G16. SiMPSONS. Televisions
wisch wacky family brought to ito in this
shoof em up contruction kit game. GO20-LAME ST-PORTS - A space
invaders type game, the object being to defleat Atari.
GOR2 - MASER OF THE TOWNThuch damage as possibile.
GCe5- DAAGONS CAVE - dungeen master she puzzle game
GO26- DOWN HILL CHALLENGE Good ski simulater.
GO228 - PIPELLINE. Classic game bu too tast on A1200/A4000 due to
supprior processor. power in this shoot em up.
GO40-PARADOX - Funky puzze GO4. WIBELE WORLD GIDOY - A the bost public domain qames ever
C047-SUPER PAKMMAN - If you ike Pak games, then get this!! The best version to date.
GO48-NEIGHBS - (2 dsks) An
excotent graphic adventire, probably the best ever in PD.
G049-FIGHTING WARAIORS Budgef version of Streetighter 2 with
good graphics. GO50. BOMB JACKY. The spectrum
classic with vasty improved graphics and sound . TEXAS CHAINSAW GSSACRE. Inspired by a true story
G056-18 HOLE GOLF. The first en pubic domain got game. Great fun. G057. SPACE INVADERS 2 Grsed -AMOS CRICKET-A A goode
Gricket simulater witten in Ano cricket simulater written in Ampos.
$0060-$ TRON 2 -
you laod the Gobo. Thon 2 - if you liwed to
orgnat, then you cant miss th
update. Faster and improved presentation.
G061.ESCAP G061. ESCAPE - The aim of this
excelient game is to run over tiles exceilient game is to run over ties
pushing specific ones down to opon
gotes wich alow you to reach the gates which alow you to reach th
exit. Do it within a ime imat to prog'ess. DR . MARIO- Similar to a N
GOE2 -
game ol simlar name but better game of simiar name but better
Gophics
GO53 - ASSAULT - This average game involves you shooting al the characters that poo up in the windows
GO54 -DEATH BNGERS IN SPACE. A Xenon sty shoot em UP.
GO65-ZOMBIE APOCALYPS Good fun with lots of biood and guts.
GOEE - STARIANS - Bzarre platform gome - SUPER SKODA CHALLENGE with rrack editor elc
GOFB - PREMMER PICKS - Very unique footbat management game. very wet presented.
G069-BIL GO69 - BILLY BUAGLAR - Dodge
lights 10 escape from prison G070-AMidABOY. TTe n game
Tetris is widely rogarded at its best on Tetrig is widely regarded at its best on
the Gameboy. It has now been
perfectly converted. with exact visual Gops A ACT OF WAR - A game of simiar stye to risk much do you know?
OOT3 - PARACHUTE JOUST - Guide the skydver to the ground.
GO74-CARD SHARP - Varous card GOMES. JEWL - A briliant game
GO76-TOP SECRET - Sorm, can't tell youtl . JELLY OUEST - This game by David McGuire was described by
Amiga Power qucta "lis a supenior Amiga Power quote "It's a supenor
brand of PO purzie game, and its looks can only be described as - dead
lushr It went on 10 recaive a 4 out of 5

## UTILITTES

U001 - THE ULTIMATE BACKUP
DISK. All the very best public doma and XCopl $U 013$-BUSINESS CARD MAKER - A tor use with ary printer
UO21-SYSTEM X - telephone directory on disk. II even dials the numberill U 136 - 600 BUSINESS LETTERS Over 600 letters of basic format ready
lor quick and simple modincation in any word processor
U139-PRINTER DRIVERS DISK excellent selection of drivers to get
your pinter woiking perfectly LIT4-LABEL MARER-EXCotent utitity allowing you to make your own
disk labes. We have added several tonts to give yru more design optoons
U153. MUUTIPLAYER - Can play vilually any boge of music modile.
U167. WINDOWBENCH A replacement for Workbench V1,
the style of Microsoft Windows the spie of Microsott Windows.
U168. GAME TAMER V2.2-Loads
cheats (over 2S0) lor use in many top
games. UNDERSTANDING AMOS - A very usetul learning aid.
U178-AGRAPH - Create all kinds of pie charts, bar charts and line graphs and tips loadng by up to 15 limes
U181-FORMS UNLIMITED. Create this neat utity
U183-MAGNUM - Creato your own disk based magazine.
U184-EDWORD-Excolent text Udsor.
U185. POOLS PPEDICTION - if you
need more hep (or money) try tis U185 - VMORPH V2.O - Excelem utlity that allows you to create
morph/warp animation. Requires 1MB morph/warp animation. Requires 1 ME
U187-THE MENU DiSK- if you are interested in craating your own
compiations ebc. then get this diak. Tos parfact for added presentation,
U1B8-CLUB LEAGUE - A utity that alows you to egit and keep track of your toams division and league status
LIB9-SCREEN BLANKERS - A disk packed with screen blankirs. the best small business programs avaliable at pre moment. Very popular
U191-VOICE CL V5.5. This utily allows you 10 control CL with speech.
U192-ACCOUNT MASTEA. Written Amios this is a very popular busines
utily of excellent ualit
U193-SOFTWARE LISTER - This program is designed to keep track of your sottware collection.
U194-DISKPRINT V3.5 integrated datatase and disk label prining ubility V1.6 - A disk that will a race. DRAW MAP V4. 1 . There are
U196- DAN MAP two versions, this is the 1 MB version,
allows you to create 20 and 30 maps
Quote 1296 for 2 MB version, which Comes on 2 disks. U197-FOOTBALL LEAGUE EDITO V1.1. As soon as the results come in,
you can monitor your teams latest youstion.
$\mathrm{H} 198 . \mathrm{GO}$
U198-GOLF SCORES VI. 8 - It can
record the resits of every record the results of every round you
play. store them and give an overal electronic score U199. ANT FLICKER - An aid to stop
 have a small business, this program recommended U201- PUNTT PROGRAM - A Predction aid tor the horses.
1202 - MONEY MANAGENENT
Home accounts package capable Home accounts package capabie of
handing up to 12 different accounts. U203. EASY CALC V1.0- This
spreadsheet is designed to be both very user friendly and tast. II has an excelent bult in help sratem.
U204-KEYBOARD TRAINER V1 Best public domain yping tutor
availabio at present. U2255-M-CAD-Computer aidod
design program. design
Uarogram. NO ERAOAS

- Hides the hare
 U208-203 UTILTIES - The most
utitios ever fialiable on a ingle


## UTILITIES

U209 - UNDELETE - This utility alows Nond
 AL mey vicmonotmemoll powiar utity evertis Craate stunning
demesmegademosintros. The special thing is that it has been modfied to
work wth the A500+ and even better the A1200. (2 drives rec. A1200) program
U213-SYS MFO V3. 11 - A disk that
will lel you know the technical status of mill let you know the technical status of U214. ENGINEERS KT - A
diagnostic disk specialy suited tor engneers etc. U 215 - DiSK REPARERS - Wil allow disks U216. AMIGA DIAGNOSTICS. Solve 1217 -LAST WILL AND TESTAMENT Wrte your own will
U218-MUISIC BASE UTIUTY-Store 1219 . ERROR INFO. Gives you a list
1all amiga error codes and their meanings TASK V2 O2 - IBM PC anulater it allows you to $n$ nt the
majoriy of $P \mathrm{C}$ sotiware with no additional harcmade. Now supponts VGA. EGA. CGA and MOA. (DV)
U222. REPAI-IT 3 . Contain a
selection of diak and hard drive eparing ulaties. Excolient for saving U224-SPECTRUM EMULATERThis is the best and latest version of the most popular amulater for the
amiga. There are 68020030 versions amiga. There are 68020030 versions
for new. AGA amigas. 2 disks
U225. STOCK ANALYST - This is a technical analysis and securities theng program whit calout
U226-ASTRONOMY V 2.0 . A menu
driven astronomy program that
caloulatas intormation about the SUR. Moon and planets. Help disk
U227-MiNG SHU CHENESE ASTROLOGY - Will create horoscopes in soconds. The complete aid. Transter your disks into colourful, well database
1229 - Kins paint - An art packap simplifed for the younger amiga U230-STAA VEW . This program designed to show graphically the any pat of the earth.
U231 - ACUARIUM - Tums your
scren into an eye cathehing fish tank O232- OCTAMED V2 - Latest vers
ot the famous music package. U233 - NUMPAD FOR AEDO - A
program that makes the A 600 think ts Pol a numberic keypad. 1234 -ADORESS PRINT V3.1 - Very sefui it you make regular postal
Uhis-IFF BOOT - Displays a picture Whilst your hard dsk boots up ory pase, tax and program forional insurance trice U238. CANNON PRINT STUDIO
Got a Cannon printer? This disk is assential for briliant results. Ussentain FANCY PAIINTNG DIISK
Comtains Banner, Graph Paper V and Disk Print V3.5
U240-BEASEII - An easy to use versable, yen fully - An eatured databe to Greatly anhancod successor beasell. ADM V1 01 - Fexable address database with loads of great featires
U242-LITLE TRAVELLER V1,1. U242 - LITTLE TRAVELLER V1, 1 . allows you to seiect any country for
travel milormation. It then zooms in giving a close-up map with more
intormation. spectacular printed banners.
U265-PROTECTION - Keep U265-PROTECTION - Keep
urwarled users from playing wth your U266. PARPENCH . Link up two migrs and communicate weth each other. TEXTENGINE V4.1. Sent
U2B3. Tre Tint Nicholas Havey
direct from author this excellent program has all hoown
bugs flued. Has 36,000 word spell 0 , techno-fear has given way to a strong curiosity to find out what else this powerhouse can do for - But on investigating the sea of Amiga Ftications, you find that the prices of utiliIn and games seem to only make them - rdable once a month, or even once a r when Mr and Mrs Santa Claus are feelF aceedingly generous.
The only other alternatives are to start cramming yourself or, more easily, take bok at the public sector for utilities and Wer assorted oddities that may come in Erul and, at the cheaper price, are - Ely more tempting than delving into complex world of coding software - for nstme being.
After checking out the regular Public - feature, you spot a couple that show -ise and order them. In a few days, they the on your doormat.
Booting them up, you realise that there
a hard disk install option. A few clicks
the mouse button later, the screen doesn't
Wd any helpful information - it seems that
are doomed to floppy disk as far as PD is concerned, unless...

## INSTALLERS

Wany programs, whether commercial or eik domain, don't usually have hard disk tre installers for the software. This is
Than to either sheer laziness on the part of t programmers, or the more legitimate mon that making a product hard drive ballable tempts the grubby hands of is to download every game they can their hands on into their hard drive for ther illegal distribution.
Fortunately, there is a way to transfer mation off a floppy onto the hard drive r personal use. First of all, make sure that desired floppy is inserted in the drive, I go over to your DH0 icon and open the Idrive.
Smply drag the floppy icon and place it
the DH0 window. The lights on the com-
rer representing both hard and floppy
s will flash on and off for a while until ring has finished and all information has Heopied and transferred.
Once done, eject the floppy and open the Er drawer that has appeared in the hard the Inside, you should find the contents the copied disk. Try double clicking on program's boot icon to see if it will load The time out of ten, a window will pop Wrling you that there is no disk in DFO Irdisk drive).
Now reset the computer and you'll probfind (unless you're extremely lucky)

## System Request

Please insert volume Motorolal
in any drive


A drawer will appear in the hard drive

that same problem still exists. This is simply down to the fact that the startup part of the program is telling computer that it will find the rest of the information in the floppy drive so therefore bypassing the hard disk altogether.

This can be overcome in most cases by the use of the assign option. This is a typed-in command used in the Shell system (the icon is usually found under
the DH 0 symbol).
In simple terms, assigning files and the like is like a diversion on the road - it tells the computer to take a different route as specified by you, the user.

Select the Shell icon and a window will open; type in:

## ed s:user-startup

The ed stands for edit as in changing the current set-up, s stands for the directory that you wish to alter - the computer will always hunt out this particular directory whenever trying to boot a program up.

The colon is important for defining each partition - each "wall" between different directories, drawers and files so that the computer can recognise they are separate.

User-startup is the actual area in which you want to make the changes - anything in here is not automatically booted by the computer on switching on but requires the user to select and tell the computer to boot it in.

On pressing Return, you'll be presented with another window representing the userstartup. Simply find a clear line and type in:


This simple command tells the computer that the floppy disk info that program needs can be found in a specified directory in a certain drawer on the hard drive. For exam-ple-Assign Funky Fun: DH0: Funky Fun.
Once this is done, press on the box gadget in the top left-hand corner and you will be asked by the computer if you wish to save the changes you have made. Hit the $Y$ key, then reset the machine and have a go at loading your program from the hard disk.

Unfortunately, this process doesn't always work but don't worry, I'll be back next month to take you a stage further along that twisty, windy road of Amiga Shell commands and libraries...

## SUBSCRIPTIONS

# Sulhscribe to the top value 

# Subscribing to Amiga Computing 

 means you reap all the benefits of the exclusive treatment you'll receive as a subscriber, and you get to choose one of these great free gifits as well
##  <br> So, you're wondering, what exactly is this exclusive treatment? lt's a whole range of things that ensure you get your copy of Amiga Computing without any fuss or effort. As a subscriber there are no worries about remembering when the next issue is on sale. You can watch your favourite soap or

have a lie in, because you won't be scrambling down to the newsagents. You'll be content in the knowledge that you are part of the select, because your copy of Amiga Computing is reserved for you personally.
Before the masses have even thought about their monthly expeditionts the shops you'll have had your copy for a few days, delivered direct to you door, postage free.
Not only do you already know the latest news and gossip, but you've also had first pick of the bargains on offer. Subscribing by direct debit means you save money and get an extra issue each year.

## SUBSCRIPTION OBDEB FOBN

## Choose either a 12 issue or a quarterly subscription, which will start form the earliest possible issue

- I would like the following $\mathbf{1 2}$ issue subscription: New Renewal
$\square 9643$
$\square 9645$
$\square 9647$
$\square$ UK Subscription EEC Subscription Rest Of World Subscription 239.95 Canada/USA * £74.95 $\$ 98$ * Canada \& USA subscribers send to: Europress (North America), Unit 14, Bysham Drive, Woodstock, Ontario, NT4 1P1, Canada. Tel: 519-539-0200, Fax:519-539-9725
- I wish to pay by:

Cheque/Eurocheque/Postal Order payable to Europress Enterprise Ltd $\square$ Credit Card

Expiry Date
$\square$


- Deliver my magazine to:

Name (Mr/Mrs/Miss/Ms)

```
Address
```

$\qquad$

- I would like a UK quarterly direct debit ongoing subscription
$9648 \square$ £8.49 per quarter (Complete the form below)
Quarterly Direct Debit Instruction
AUTHORITY TO YOUR BANK/BUILDING SOCIETY TO PAY DIRECT DEBITS


Address

## -1.

…........................................................................................

Name of account.......................................
Your account no.
Yo
Sort code $\square \square \square \square \square$

|  |
| :---: |

Oate ...
FOR OFFICE USE ONLY
Originator's Identification No
Ref No.


- Tick which free gift/special offer you want:
$9586 \square$ Mastering Amiga Beginners (Add $£ 3.95$ to the cost of your subscription. It paying by direct debit please pay this by cheque or credit card
$9549 \square$ Premier Manager
$9576 \quad$ Two free issues and a magazine binder
$9584 \square$ Alpha Data Mega Mouse and Logic 3 mouse mat
- Send this form to:

Europress Direct, FREEPOST, Ellesmere Port L65 3EA. (No stamp needed ifposted in UK.)

# suride to your Amigal <br> Tolke out al subsoripuion cmal you cum piak al wionort 

# Choose one of these free gifts or special offers 

Two extra issues plus an elegant Amiga Computing magazine binder


Subscribe to Amiga Computing and
 we'll send you a high quality, exclusive Amiga Computing magazine binder. These specially produced binders will keep your magazines in mint condition, providing an excellent reference point, as well as keeping them stored away neatly. As well as this useful binder you also get two extra magazines. Your 12 issue order is extended up to 14 issues, at no extra cost, so you get 14 factpacked issues for the price of only 12.

## - Alpha Data Mega Mouse and Logic 3 Mouse Mat

The well known Alpha Data Mega Mouse has ultra high 260 dpi resolution with optomechanical encoder. The reliable microswitch buttons provide effortless finger-tip operation. You can have all this and a high
quality Logic 3 mouse mat absolutely free operation. You can have all this and a high
quality Logic 3 mouse mat absolutely free when you subscribe.

> SUBSCRIPTION HOTLINE Tel: 051-3571275 Fax: O51-357 2813
$\square$


## Mastering Amiga Beginners special offer

For only $£ 3.95$ this book will provide you with a solid grounding, through easy to understand step-by-step explanations. The computer terminology is explained at every stage and there are full descriptions of the software, hardware and new technologies, such as video and CD, which are available for use with your Amiga.
This superb book includes coverage of the A1200 and A600, Workbench familiarity, preferences, utilities, beginners AmigaDOS, programming, fonts, printers, graphics, music and sound, public domain, viruses, upgrading, comms, desktop video, multimedia and much, much more.

## Premier Manager 2

This is the latest football management sim from Gremlin. Following on from its predecessor, Premier Manager 2 takes the whole football management scenario one stage further, and although more complex than the first version, loses none of the addictive appeal which made it the success it was.


There's quite a selection of tittes this month, from games and music demos to handy utilities and superb animations.

Amiga PD seems to be maintaining its excellent standard by producing useful and entertaining products. Keep sending in the software - the more variety and diversity

## PUBLIC

 SECTI
## Now That's What I Call Games Volumes 182

## Produced by: Multi Media Machine

## Available from: Most computer retailers £19.99 each

The Amiga CD32 - the saviour of Commodore, or so they would lead us to believe. Like Atari, the once big boys have suffered cruelly at the invasion of the consoles and at the hands of the software pirates. Kids are interested in games and don't really care much where they get them from.

Enter the Mega Drives and Super Nintendos of this world and you have a revolution of buyers on your hands with the majority opting for a single purpose machine to hammer away at a joypad on.

Then, with a huge burst of inspiration and surprise, Commodore released the CD32, an A1200 with a CD-ROM drive and no keyboard.

Backed up with promises of dozens of titles available by the time Christmas rolled around and an anticipation whipped up by the Amiga mags (includ-
ing this one), things looked set to be a startling success.
Well, as usual, the ideal promises and hopes have fallen to the wayside to reveal a much more realistic and therefore unfortunate situation.

While there have been a dozen or so releases, nearly every one has been a direct port over from existing software found, in some cases, on your trusty A500.

And while the games themselves may well be good in many respects, they are not the flagship products like Sonic, Mario and Starwing that the CD32 needs to help it make a real impact on the market.

Even the likes of the excellent Liberation from games maestro Tony Crowther lacks the instant "buy me now!" appeal that has sold so many consoles in the last couple of years.

With the likes of the 3D0 and Jaguar getting ever closer to the shores of


## As the air warms and the frost thaws, Adam Phillips peruses the latest PD releases with a spring-time passion

Blighty, Commodore needed to get its foot in the metaphorical door, grab a fair size of the game playing public this Christmas and reap the benefits. Unfortunately, from where I'm sitting, they've missed their golden opportunity.

Surprisingly, one of the last places you'd expect to find public domain and shareware programs is on a CD, but it's now possible to lay your hands on over 200 different titles (perhaps Commodore commis-
sioned this to reach their software tars Each volume contains 100 programs, the first disk has a selection of demos animations.
Obviously with such a huge libran offer, you're bound to find a few titles you'll enjoy playing (such as Bomb Jaxi reviewed in these pages a few mond back) and if you're a PDophile, this card satisfy your desires greatly.

On the down side, what's the poimt


Grab the keys and move to the next screen without being annilillated by the bugs

## Programmed by: Craig Collins Available from: 17 Bit Software Disk No. 2872

The Amiga is regarded by amateurs and professionals alike as an excellent machine for computer animation, effects and other film and video oriented jobs.

Animation is a big favourite of the people in the office - the editor and assoc ate editor regularly hammer out short sequences on Imagine 2.9.

Imagine, if you will, my delight when this little beauty inconspicuously fell car of an envelope and straight into my disk drive and turned out to be so good.

The lengthy black and white anim tells the story of the CD wars where the Mes CD, CD-i and CD32 meet head to head as ray-traced cars in race with a humtr deity overlooking the affairs.
After comparing each others capabilities, this being decides the fate of each competitor and surprise, surprise, the CD32 comes out on top leaving the other as they morph into gravestones on the track to hell.

This may sound a little bizarre and tacky, but compared to the cruddy advert oz television at the moment which boasts a large robot blowing up while playirs Microcosm "cos it canna handle captan", this animation is a work of commerci art with well used, not overtly elaborate and, dare I say it, pretty well directed.

Included are various controls for speeding up and slowing down as well at pausing the action. On the downside, it eats up a fair size amount of memory 1 Mb of chip RAM and at least 3Mb of fast RAM.

If you have the facilities then Mean CD Machines is well worth snapping up ant enjoyed in its full raytraced and morphed glory. Impressive and talented stuff.
belling out this kind of money for "the Wimate games machine" only to be given Frething that seems to be nothing more in "let's try and keep them happy" tarketing move? I wanted to get my rth in to something with some real 32 games playing meat.
Also, half of the progs on offer can only - played with a mouse or keyboard teaning that the average punter is going Thave to shovel out more money.
One of the most annoying features of epacks is the need to reset the machine sery time if starting on a new game or, tire frustratingly, after a short anima-

Now That's What I Call Games series taybe a nice budget idea for computers for $£ 19.99$, I'd advise saving up your mies instead and buying Liberation hat begins to show what the CD32 is apable of. Plus it's guaranteed to keep midnight oil burning into the wee urs and beyond for a lot longer than STWICG is.

## Quackers

Programmed by: M.Pratt
Available from: Michael Pratt
4s usual, another set of particularly loathwome aliens have landed on a peaceful Inet somewhere in the universe and we corrupted and possessed various mhabitants including King Duck and Sata Claus.
It's your job as the heroic duck figure move through 20 levels split between ar worlds including Brick City,


Play a classic card game with this slightly saucy version from the shores of the Netheriands


Punch in your statistics and cross your fingers to hope for an accurate prediction...

Christmas Land and Duck Land. By moving across platforms, collecting fruit and other goods, the object of each screen is to grab all the keys and make for the exit without being killed, maimed or the time running out.

Part of your lethal arsenal of weapons are fried eggs that seem to have a diverse effect on the foe. On completing each world, it's onto killing the end of level baddie which in this case, is very easy indeed and looks like a post box.

The game works relatively well but lacks the polish to make it noteworthy. There is no animation on the main sprite and it has a tendency to stutter across the screen instead of moving smoothly and seamlessly.

Quackers is by no means a bad game, requiring skill and precise timing in some places but it just looks like an idea that


- Mega CD has alrecady bitten the dust. Wing the CD32 and CDi to compare statistios EABe comera looks on..


Enspreme being slowly twists its Wed and cleuches its fist, decidfing - forte of the loser...


Due to the CD32s superior features, turbine objects morph from the back of the car in excellent computer rendering


The CD32 car Ititerally flles down the trock as a gravestone of the CDI motor spins on the track below


The CD 32 auto gilides over the finksing line, lands smoothly and is proclaimed winner...
could have been exploited more and worked much better - perhaps by including a two player option to make it even more like Team 17's excellent Qwak.

## Klondilke Deluxe AGA

## Programmed by: Remy Nusteling and Koos Roodbol <br> Available from: Exclusive PD

This traditional card game, like many others, has now reached the chips of your local computer courtesy of the PD scene. On looking at the pictures, you may think that this is another venture into the smutty underworld of pornography.

Well, perhaps strictly it is - scantily clad women in suggestive positions - but on closer inspection the images are a hark back to the titillation days of the 50 s put together with an absorbing game, providing harmless fun for the average male player (like Biff, our Gamer editor, who says he can't stop) when compared to the hardcore, explicit nature of the material accessible to most children with a computer and disk drive from the more seedy PD libraries and bulletin boards.

The game itself is an addictive and challenging title of strategy, logic and the vital ingredient, luck, where the player must put all the cards in the relevant suits whilst not trapping yourself in a no-win situation - very similar to Patience.

The presentation is of a high standard, whether or not you agree with the material on display, - solid AGA renditions of the cards are polished and professional, the only problem being a certain glitch running across the card faces once in a while.

If you're a cards fan and own either an Amiga 1200 or 4000 , this is a cheap computerised version of a classic solo game.

## Footy

## Programmed by: Andy Mac

Available from: Virus Free PD
For those of us with a dream of winning the pools one day then Footy could help us take a step closer to making fiction become a reality. A dedicated database, this
mouse-driven, user friendly program allows you to keep track of what's happening in the football league.

The user is able to enter all current information about any team. By tapping in a mass of details including home wins/ draws/ losses, goals scored and conceded as well as away info, a full picture can be drawn up for the avid footy fan.

Also included is a forecast routine which attempts to tell you who'll draw in that vital next match. Be warned though; in the author's own words: "Obviously, it is not entirely accurate or I would not be sitting here writing..."

Footy receives the public sector seal of approval because if it does give you a better chance of winning then it has to be recommended.

## The Ultimate Icon Editor

Programmed by: John Scheib Available from: Virus Free PD Disk No 393

Last month's excellent Magic Workbench offered a large selection of different features for your Amiga from various backdrops to programs to alter the squeaks and

## Calling all PD Iibraries...

..and individuals with anything remotely worth my while having a peek at. If you want something released as PD, or you're a library with stacks of hot new stuff that you haven't seen reviewed in these pages yet, why not drop me a line with a copy, full documentation and everything clearly labelled? I promise I'll at least look at your work.

From music to education, business to utilities - anything you feel deserved your shoving onto a floppy disk, lemme at it and I'll do the rest. Address?

> Adam Phillips, PD submissions, Amiga Computing Europa House, Adlington Park, Macclesfield SK10 4NP


Either choose icons from the vast selection on offer or create your own with the icon editor

## $>$

squawks made by your machine. Its only limiting omission, while providing the user with some very tasteful icons, was the lack of a large library of both images for icons and differing sound samples.
The former has been seen to now with the release of the Ultimate Icon Editor which has both a collection of dozens of icons for use as drawers, files and any other opportunity you can think of, and a drawing package for the design of your own miniature works of art.
The pictures provided range from basic disk symbols that simply invert colours when clicked on to various symbols that change when activated.

The standard of these pictures are not up to the plushness of the small amount offered by the Magic Workbench but is high enough to be attractive and effective.

It's a worthwhile purchase with useful facilities to make even the most ugly of screens start to show its true colours.

## Address Print

## Programmed by: Paul Lathwell

Available from: Paul Lathwell

Address Print is a useful program for labelling packages and other postal items. By using the simple and easy to use point'n'click interface, the user is able to create a single or an entire database of address labels to be used at home or work.

On offer are an extensive list of controls for precision printing such as label pitch, style, colour of writing, left margin size and a draft or near letter quality selector.

The package also includes a Doc Dump, a printing utility, that reduces the amount of paper required to print an Ascii file on a Epson 9-pin printer.

This is a useful and worthwhile product that could come in very handy for home users and small business owners alike.

## Making Trax Volume One

Produced by: P.A.L.E.
Available from: Paul Lavin
For those music hungry PD goers out there, this months offering from newcomer, Paul Lavin, has four tracks featuring Jean Michel Jarre-isque melodies, rave songs using samples from Yello and
one called "Oy you! Shut your mouth and look at my wad", which is accompanied with a revealing image with pound and dollar signs emblazoned across it.

Also included are various rough-around-the-edges digitised pictures used as backdrops painted by every pre-pubescents dream artist, Boris Vallejo which depict women in various states of undress astride large dragons.

The samples are clear and crisp making this well worth checking out if the music is up your street.


Turn on, tume in and drop out...

## Lay your hands on me

Exclusive PD, 7 Beresford Close Waterlooville PO7 5UN Tel: 0705642409

Paul Lathwell, 3 Sweetbriar Close
Gadebridge, Hemel Hempstead HP1 3PA
Paul Lavin, 59 Sealand Avenue
Sealand, Deeside CH5 $2 \mathrm{HN} £ 1.40$ incl p\&p
Michael Pratt, 10 River's Road Yeovil BA21 5RJ
Send blank disk and SAE

17 Bit Software, 1st Floor Offices 2/8 Market Street, Wakefield WF1 1DH
Tel: 0924366982

Tigersoft, 94 Mure Ave
Kilmamock KA3 1TT

Virus Free PD, 31 Faringdon Road Swindon, SN1 5AR
Tel: 0795512321


## GAMES

 -ang + Wet Beaver Gam




cin

+ Viking Chillts
ane Simsons $t A$ 0094 + Return ton Earth $[A)$
005 +Papeye $(A)$ -057 +Popeye
$2 / 4)$

208 +Pipelinges $(A)$ | 005 Dragontilies (A) |
| :--- |
| 08 + Bung Blaster |
| A |



$033+5$ eatlance (A)
+Waste Land

$4 / \mathrm{C}$ + Dungeons Durita

+Power Games I
+Revenge Camel $(A)$

+ Scrum Hativs $(A)$
+Mega 21 Games $(A)$
+Mega 21 Eam
+ Survivor $(A)$
+Adam Family (A)
- Oragon-Cave (A)
+5pace-Poker (A)
 + Scrabible la)
+ Take Em Dut Throme (A)
+ Super Pac 92 -nnsider-Club (A)
-Crystal Cevems +Crystal Cawerns
+Property Market
+Subiculture (A) +5ubcutture (A)
+ Trucking (R) +Murntal Images 1 t
+Mental Images 2 Mental Image +Mr Dug (A)
+Fruit-Machu
+Arcatia (A)
+Arcacia lal
+ Giame Gatore [I-13]
+Al Bounty Hunter - Dimunsion X $[A]$
+ Squats Revenge $(A)$ +Mlega Bame Col ill $(\mathrm{A})$
+Madtonina Niude Puz $/ \mathrm{A})$ Eravity (A)
Cybieravetic + +Donkey Kong
+Crazy Sue II I +Crazy Sun
+Dr Mario
+ Dr Mario
+5. Skida Challenge (A)


5 + Wonder Land (A)
1 +Chinat Chailenge if (A)
2 + Doture Pacman (A)
+ Dowhuv Pacman
+ Bingo Caller (4)
+Card Giownes (A)


6380 + Shoot Em Lp $(A)$
1535
+Billy the Dragan
7305 + Billy the Dragan (A)
7099 + Casing Giames (A)
3050
+Tetren (A)
and Strkphall (4)


4093 +Castle Nomis $(4)$

$5 i l l$ + Fattle Car $2(A)$
$5417+2 Z$ Puzzle Games (A)
Ste2 + Sorme II (A)

1536
5477 + Aifport
$-4 m p y$
-438 +Traibliazer $[4]$
+43 + Diemplad Disk
$543+$ Oiemplox (A)
$549+$ Emplire (2)


$5465+$ Chess $I I I A I$
$474+$ Top of the League
Ti78 +Amos Cricket (A)
(Full Prices) Commercial Games. See below for details

UTILITIES
LOOI +A-GENE $(A)$
VOOR + Systivn $T$


 $2031+[$ LCight (IMM)] (A)
$2073+$ Cross Dos (A)






 U145 + Xcopy Professiona
U146 +C-Manual (4) (A) U146 +C Marnual (4)
U150 + Work-Bench Hack U153 +Assasign Printer (A)
$2160+600$ Busimess Let (A)
U169 + Paint and Animate (A) $169+$ Paint and Animate $(A)$
4170 +Biorhythm Vi/.01 (A) U177 + Electro-Cad Vi. 4 (A)
U181 + Vidivo Note Pad $/ 4)$
 1195 +Amibase-Pro it $(A)$
$1198+5 c e n e r y(A)$
$V 220$
+Amos-Paint $(4)$ $L 22 G+A m o s-P a i n t(I A)$
$L 2 Z 5$
$+50+$ Most $U$ se $L$

 $1237+8 B$ Channel 5 Tracke
$1242.21 m p t o d e r ~ 4.014$
1250
 U255 +Graphic Lanvertur
UREI +Jam Disk (IIVID) IA)
U284 + [opy 6 (Tack Tonl (A) L284 + Lopy \& Crack Toal $/ \mathrm{A}$
U287 +P.L I Pascal (2)
1300 + Messy Sid II (A) U300 +Messy Sid il (A)
U3II + Power Lagn (A) U3i1 + Power Logo (A)
$1313+$ Printer LTility

 1334 +Emulator Col 11
1935 +Free Copy (A) 16355 +Free copy (A)
1337 + Model $301(A)$
 $1339+$ Littio Difice $(A)$
$1 / 950+$ Pool Tool $(A)$
 17557 + Bon Appurtit (A) $1 / 551+$ Bon Apputit $(A)$
$1 / 558+5$ tar Cat $(1)$
$1 / 363$ + Disk Repowir Kit 1354 +Hame Account (A)
U358 +Amicash (A) $U 368$ +Amicash (A)
UG70 + Caption Machine $(A)$
 U375 + NCDMM II (A)
UG77 + NCDMM III (A) U383 + Lyapvnou Gomatar (A)
LS90 + Data Base Pack (A) $L 390$ + Data Base Pack (A)
LG9I +Fortran Lamguage (A) LG91 +Fartran Languarge (A)
1999 +Protraker Vs 2 (A)
1797 +Form Unlimitted (A) LY98 + Mortgage Calc (A)
 $1401+$ Plusi Issue (1-14) (A)
1420 + 5 peved Beench (23) $(A)$
$1424+5$ lidemaker (4B2) $1424+$ +5lidemaker (WB2B3) $I$
$U 425+$ NiB 2 IAI
L427 +Printer 5tudio $(A)$ 1427 +Printer 5 tudio (A)
1430 +5ound Moritor $/ 4)$
$1431+$ Videra Apication (2) $1431+$ Viduo Apication (2)
L4)
L4 $1442+5 y \sin f 02.55 \mathrm{lA}$
 $1477+$ Ouatermass Exp (C)
U480 + Hard Disk Click (A) U491 +Protracher V3 [3]
U495 +Hard Disk Ltil (4) $L 495$ +Hard Oisk Letil (A)
L505 +5 Iallage Repair Kit IA $1505+5$ andvage Reppair Kit (A)
$1507+$ +0Copy 3 Proff $/ A I$
1509 + Litimate Bthlock I (A) 1509 +Litimate Bthlack 1 (A)
1513 +Viden Titier A (L) (A) 1515 +Amos Fractal (4) 1550 + 5 cenery Const Kit (4)
$1551+A 5 s a s s i n$
Boot Black (A) $1555+$ ASsassin Boot Bian 15558 + Бraphic Const Kit
1557 + Text Pius V. 4 (A) LS58 +lcun Cowst Kit lटI IA L580 + Pictuwe Bax 141 US81 + Magneitic Pages (A)
L584 + New Super Kuller (A)


ABOVE IS ONLY A SMALL LIST OF TITLES AVAILABLE

[^10]
## PRILE \& HOW TO ORDER

Prices......99p per disk
 [Europe add 25 p per disk for PEP]

MAKE P.O. or Cheque payable to: FIVE STAR PD send to:


PLEASE ORDER A CATALOELUE DISK

FIVE-STAR [Dept A[8] 48 Nemesia Amington Tarnworth B77 4EL
Tel: 0827 E8496 Hepenen duysp oned

We also stack:
FRED-FISH
1-890
L.5.1. dacs

1-39 SCDPES

1-22!
1-115

C64 EMULATOR V5 ᄅ \& 50+ original C64 Games Pack the very latest CE4 Versian 2 Emulator. Now you can
Superb value pack DNLY
$E 4.99$

## ZX 5PELTRUM 48k \& $50+$ original $5 p e c y$ Games Packs This is the very latest version (1.7) now run much fenter if include sound. You can even progren it like the (ignal $2 x$ spich <br> NLY...E4.99 ALL AMIGA5 (please state)

## 101 <br> Games compilations pack only E12. 99

 Suitable for all ages $\&$ for all Amigas

30 + GAME PK 1 or 2 ONLY E3.99 each For all ages and for all Amigas

## A55A55IN

GAMES PACKS Vol 1-115
Very highly rated games compilation thats
reviewed in most Amiga mags. Each disk contains between 2-G very high quality
games. For full list of the $A 55455 / v$ gamme
ALL AMIGA Iorder by disk no eg. Ass93 for Assassin disk 93
SPECIAL PACK...FOR ALL AMIEA MANGA ARIKA (E) disk) NEW Mn inly
 Gb LDED FONS Pack 1 , or 3 only 54.95 PAGE STREAM FONTS (5 discrs) oonly E5. 95



## Awaken within your dreams it's Iike a hi-tech virtual world!

Now you can take charge of your dreams and do anything you want - and experience a fabulous dream world that can seem just as real as this one - with the astonishing Nova Dreamer.

You wear a soft sleep mask at night. and photoelectric sensors in the microelectronics sense the movement of your eyes during REM (rapid eye movement) sleep. The clever device decides that you are dreaming and gives you a cue in your dream to let you know that you are in fact dreaming.

The light or sound cue is at just the right brightness or volume to enter your dream without waking you. This is similar to your alarm clock or radio coming into your dream in the morning. By following the exercises that come with your Nova Dreamer you will recognise the cue when you're dreaming, and experience breathtaking adventure that can feel more real than reality! This is lucid dreaming!

If you've ever had very realistic flying dreams or out-of-body type experiences then you'll appreciate the incredible power of this device to create these adventures again and at will! You can even fulfil you

This is just like hi-tech Virtual Reality

## HERES WHAT YOU CET:

- Nova Dreamer micro electronics in a soft sleep mask with tiny batteries included - Built-in jack socket for future connection to your PC
- Crystal clear 20-page Instruction manual - 90-page Course in Lucid Dreaming
- Questionnaire and charts to complete
- Exploring the World of Lucid Dreaming book
- One year's subscription to the Lucidity Institute's 16 -page quarterly newsletter NightLight
All this for just £275!

"Eventhing in the dream became extremely vivid. I was suddenly intensely aware of temperature, air movement, smells and sounds. I had a strong sense of being in control. I leap into the air and flew. The sensation was the most exhilarating and realistic dream experience I have ever had. The feeling of exhilaration lasted all the next day."
Now it's your turn with the astonishing Nova Dreamer!
wildest fantasies and experience
and it's here now!
In addition, if you order now, we will send you a FREE Trance Induction tape produced by Stephen LaBerge, the designer of the Nova Dreamer and author of two best-selling books on lucid dreaming.

LaBerge's hypnotic voice with background music and sound effects will help you create a mindset in which lucid dreaming happens easily.

This superb tape normally retails for $£ 15.95$ - but you will get it free!

## ALSO AVAILABLE:

The amazing MindLab, entirely different from the Nova Dreamer, enables you to feel profoundly relaxed in just 25 minutes. You simply put on the goggles and headphones, close your eyes, and the gently pulsating lights and sounds guide you down into a deep restful state. Among the 25 sessions are ones for accelerated learning, deep sleep visualising and energy boosting. Downloads further sessions from cassette in just 15 seconds - and we give you an extra 42 sessions on tape!
Only £299. (Full info pack available on request.)


## ORDER YOURS NOW:

 - Ring Chris or Geraldine on 0625858885 to place your order or ask any further questions . Fax them on 0625850551 . Office hours: 8.30 am to 7 pm and beyond - Or fill out the coupon below, and send it to: LifeTools, Dept AC3, FREEPOST SK1852, Poynton, Stockport SK12 IFZ (no stamp needed). We endeavour to despatch your order on the day we receive it by 48 -hour courier, but allow 28 days for delivery just in case.

[^11]

Fasten your seat belts and get ready to fly


Seek out and destroy the forces of SPUDD!


## DATELINE: THE NEAR FUTURE

## MISSION BRIEFING:

Intelligence reports are being received that a renegade organisation, SPUDD is massing its forces ready to attempt word domination. Only an underground task force can save the day. Are you ready to become a part of that underground taskforce? Which of the 40 aircraft will you choose as you fly 100 sorties across the world against the forces of SPUDD? The civilised world anxiously awails your decision!

Available for the Amiga<br>PC version coming soon

$38 / 40$ High Street. Green Street Green Orpington. Kent BR6 6BJ Tel: Int +44 (0) 689850770
Rasputh Sottware 1993 Prasputin Sottware is a trading subsidiay of Power Lobel Limited


REVIEWS... SKIDMARKS O JURASSIC PARK © FANTASTIC DIZZ COOL SPOT © TORNADO F FI CAMPAIGN 2 PIRATE'S GOLD THE LABYRINTH OF TIME © AND SOME OTHER STUFF..
ALSO... LATEST BUNCH OF CHEAP SEATS REVIEWED CHEAT MODE: ADDAMS FAMILY CD32 ROUND-UP © ALL THE LATEST NEWS FROM THE WORLD OF AMIGA GAMES

## Baby, you can build my car!

##  <br> $\qquad$ <br> thencisiow cong

Impressions Software, the people who brought you Air Bucks, are pleased to announced the imminent release of the ultimate automobile simulation, entitled Detroit. You can design and build the car of your dreams, take on a workforce, mass produce them and try to make your fortune in true Henry Ford style.

Detroit begins in 1908 and runs through to 2008. You can invest in research and technology, decide which car systems to invest in, and then at any stage design a new car using the technology available to you at that time.

Using simple and intuitive mouseclicks, you can select which of each sys-

tem you want for your car and then see it appear on the prototype in front of you. You even get to choose what goes inside the car and what it looks like!

As managing director of the car company, you must decide how many factories or assembly lines to allocate to producing the model of car, and how to market it in each territory.
The program will enable you to choose from magazines, billboards, sponsorships, radio, television and other media to promote your range of cars.

The simulation features many possible types of vehicles, including sports cars, sedans, wagons and even trucks. Impressions boast several other features such as unrivalled flexibility in how to play the game and most important of all the fact that it is amazingly playable!

The company, famous for its excellent strategy games, say that Detroit is the biggest and best Impressions product yet. The game should be on the shop shelves sometime in February.


More meaningful pieces of news about great and really quite impressive software products to arrive on the Amiga in the forthcoming months... oh yes!


## Super Stardust hits the A1200

Bloodhouse are currently working on a spectacular A1200 version of their highly accloimed shoot'em-up, Stordust. The game which received 92 per cent and a coveted Gamer Gold award back in our Christmas issue is a shamelessly brilliant interpretation of the old Asteroids arcade game.

Bloodhouse are apparently out to prove just what the A1200 can do! It's due for release in May and will feature new enhanced 256 -colour graphics, ray-traced backgrounds and enemies, stereo sound, spectacular parallax scrolling 3D tunnels and will be hard disk installable.

The boys from Helsinki also have a few more tricks up their sleeves for Super Stardust. They're keeping a bit quiet about it so for, but A1200 owners can expect startling new levels to clear, horrible new enemies to tackle and few more sur


## Gremilin sequel bonanza

The next product from top software house Gremlin will be the sequel to Utopia entitled K240. You play the role of an independent who has recently established a pioneering colony at K240, an asteroid high in mineral deposits. However, as you expand your operation, a strange phenomenon starts to occur.

At first you dismiss the loss of your scout craft as an accident. Only when a similar ship begins to probe your craft do you realise you're not alone! As the commander of your ore extraction colony you have several objectives, all of which must be carefully managed if you are to be successtul.
prises which we're not going to be told until nearer the release dst CD32 owners don't have to despair because also coming in Moy 3 version of Super Stardust which includes a new CD-level soundtrack a effects and out-of-this-world graphics! Expect screenshots and nes information as we get it!


K240: Gremlin's futuristic sequel to one of the best ever strategy games on the Amiga

First and foremost is to explore, enlarge your colony and expand your mining operations, so yar can extract more ore and sell it to the Empire. Utopia 2 will feature six different alien life-forms fight against and each will utilise their own policies and attack strategies.

The game will feature sophisticated digitised speech and atmospheric sound effects. A supe cinematic opening sequence will set

The ship construction yard, just one of the features of the K240
 scene for your asteroid strategy adventure

Having played a rough demo of K240 can report that it is looking really goo Strategy and Utopia 1 fans should look a for it when it hits the shop shelves in Marct A preview of Gremlin's K240 is in the nes issue of Gamer.
Next month we will also be taking a look $\begin{aligned} \\ \text { I }\end{aligned}$ Gremlin's Hero Quest 2. Subtitled th Legacy of Sorasil, Hero Quest 2 will be the first in the new Hero Quest Masters series.

Choose a party of intrepid adventures from eight would-be heroes. A paladin,

## Overload!

Dark Horse International is about to launch Max Overload, a fun-filled comic combining game heroes, humour and stunning full-colour artwork, and featuring stars from the Amiga games world including the Lemmings and Chuck Rock.

Gamers who have had trouble keeping the suicidal green-haired Lemmings alive in the Psygnosis classic will enjoy the chance to sit

- back and let them look after themselves for a change. The rampaging rodents are brought to life is a series of manic misadventures by writer Dick Hansom and illustrator Graham Manley.
Core Design's best-selling caveman Chuck Rock also finds himself making the transition from pixel to page as his beer-swilling and pizza-guzzling ITlos are brought to life by artist David Lyttleton and writer Cefn Ridout
Dark Horse International have been publishing comics in the UK since May 1992. Their parent -mpany, Dark Horse Comics, were formed in 1987 and are now among the leading independent تnic publishers in the US. Previous Dark Horse Comics have included Aliens, Star Wars, Padator, Robocop, Sin City and Give Me Liberty.
The first issue of Max Overload containing 64 pages of full-colour gaming mayhem goes on wie on February 15 , priced $£ 1.95$.


The happy hand of adventurers head off on their quest
on their quest


[^12]
## Are you looking at me? Are you looking at me? Well, stop it and look at the games stuff we've got for you this month! <br> REVIEWS O REVIEWS O REVIEWS

## Star Trek <br> 109

Simon Clays boldly goes where everyone has been before,
but beware of his dodgy gags about toilets and Klingons!

## Jurassic Park

110Ocean's biggest film licence ever hits the small screen.
Is it a Jurassic classic or a pre-historic monster?
Fantastic Dizzy112

The return of the egg with attitude. Codemaster's fry up yet another helping of yolk-filled platform fun
Cool Spot114

He's cool: He's spotty! He's Cool Spot! Get out your shades and your Biactol and take a look at Virgin's hip and happening platformer

## Pirate's Gold

Yo ho ho me hearties, 15 men on a dead man's chest and more cliched pirate sayings in MirroProse's CD32 actionladventure, set on the seven seas

## Skidmarks

We're only a few weeks into 1994 and already we think that we may have found racing game of the year! Oh and there's only one cheap gag in the whole review
F1.......................................................... 118
Domark take to the track and rev up their engines in this multi-player, err Formula-One-'em-up. Brmm Brmm!
The Labyrinth of Time
Electronic Arts' amazing CD32 adventure arrives and it's hotter than the centre of Mount Etna

## Tornado

Grab your helmet, zip up your flight suit, grapple with your yoke and take to the sky in Digital Integration's latest flight simulator
Campaign 2 ..
.125
Empire return with the sequel to one the greatest war simulators ever. Simon Clays gets tanked up... again!


Tornado

## RECULARS O RECULARS O REGULARS

## CD Round-up

Hold steady your joypad and skip along to the page where the latest bundle of releases for the CD32 are reviewed

## Cheap Seats

More bargain budgets for all those scrooge-like gamers
who can't be bothered to kick-start the British economy

## Cheat Mode: The Addams Family

They're ooky, spooky, hilarious and, err I've forgotten the last hit, but a full set of hints on how to complete Ocean's platformer is showing in 21 pages time!

## Star Trek

when Stor Trek beamed itself oboord the Gamer shutle croff I undertook a solemn oath, along with other red jerseys omong us, not to indulge in any Trekky-type hetoric.
But, not five words into the opening stonzo and look, Stor Trek type utteronces are splattered ocross the page like so mony Klingons after a run in with Jomes T Kirk.
The point is dear reoder, that love it or hate it, Star Trek is one of the most infomous progrommes ever to groce the tube of a TV set.
To celebrate this much moligned foct and to soy happy 25th birithdoy to all the crew, Interploy hove relessed Stor Trek The 25 th Amiversary.
While not the most imaginative title to be dreamed up by the marketing depariments, ir's very direct ond leoves you in no doubt at all what it's on obout.
The first ond probobly most important thing to soy is that all the stories and missions in Stor Irek feature the crew in their prime bock in the heody 60 s.

Most folk quile enioy the special effects that technology has herolded and agree the all-new Enterprise is kitted out with for better equipment and decoroted for more tastefully, but 25 years in space hove left the crew a tod haggard and worn.

No amount of techno wizardy or planitude of surgical trusses can reduce the pounch poor Scotiy hos developed, or the look in his eye that soys that death is but a dilititium crystol owoy for the chief engineer.
Sulu has completely lost his ninio stills and no longer strips to the woist after tuming psychotic at the Enterprise parties. McCoy powned his med. ical kit becouse the bags under his eyes are so huge he can keep his Tricorder in them. Uhura is
now a Grandmother and con't hear a thing that crocked ocross the rodio woves of spoce, while Soviet representative for the federction Chekov has a speech impediment so severe that con't tell his "yessels" from his "yodka".
Even the big cheese himself, James $T$, hos hod severe problems, and during a freak transporter occident had his hair reploced by a strip of shag pile carpet.
As for poor Spock, the pioneer of the combed forward hairdo, he's developed a personolity. look on a doy job on Mission Impossible, soved up his money and bought himself a set of parahoic sexual chorocterisics and now oges at the same rate as a humon.

## whirzinc

Stor Trek begins in much the some monner os the IV show, with the Enterprise whizzing post you, while the music we're all occustomed to bounces merrily olong. Then, to make things even more akin to Gene Roddenberry's crection, you get the inte of the episode, or mission.
Once on the bridge of the Enterprise, the game unfolds and control of the moin charocters becomes yours. On the bridge each of these charocters hos specific tosks to perform. Eoch of these corresponds to the role the choroder took on in the show iself.
For example, Sulu is responsible for toking the Enterprise in ond out of orbit, whereas his counterpart Ensign Chekov controls the novigafion and the weopons system.
However, when it comes to control of the eforementioned systems it's you who guides them and fires those lethol phosers and photon torpedoes.

The ship itself has all the systems that you'd expect of the Enterprise for you to toke care of,


There's Klingons on the starhoard bow. Blimey, I've got some on the seat of me pants now as well


This is the map Chekov uses to guide the Enterprise to mysterious planets.
Personally I'd have bought an A to z


So, Mr Space Pirate, you have two minutes on your speciallist subject: Being outwitted by a bloke in a yellow jersey and a corset


## Take it te

## Lieutenant Commander Scott

The ultimate grease monkey. Whether it be the precious dilithium crystals (of which there seems to be only a handful in the universe) or a flat tyre, Scottie's your man.

Is afflicted with the worst Scottish accent ever and is obviously a fake unless he hails from some minute island in the North Sea that doesn't have a Scottish accent.

## Lieutenant Sulu

Sulu is the model officer and perfect heimsman. That is until he starts fants sising about Bruce Lee movies. Then he strips off to the waist, starts bitching an the other crew members and eventually picks a fight.

It's commonly believed that he's jeal ous of the captain, because the girl with the clipboard who gets Jim to sign her autograph book every episode never asks him.
$108)$ Crnmi March 1994

TREK

## It＇s time to coin as many clichés as is humanly possible and boldly go where no reviewer has gone before

## tothe bridge

## Ensign

## Pavel Chelkov

Chekow is the ship＇s communication officer and this says a lot for the efficiency of the ship due to the severity of his speech impediment which renders him impossible to understand． Subsequently，this has made it extremely hard for him to keep his grubby Russian mitts off the totty for five years．Loves beaming down to those planets which are a reflection of some stage of earth＇s development in case it tarns out to be the Parisian whorehouse episode（you know，the one Spock couldn＇t see the logic in）．

## Commander Spock

Mr Logic himself is half Vulcan and half eunuch．Before becoming the brainiest man in the universe，Spock worked in a massage parlour but had to leave after rendering most of the customers unconscious． Once did a mind meld with John Major and after finding there was nothing there donated his sense of humour to him．

## Lieutenant Uhura

She is a native of Africa and her name means freedom．She got the job of receptionist from an agency in Cambia and has since been taken on full time．Has a great singing voice and delights in reciting Shirley Bassey＇s Bond themes in the ship＇s recreation area，while Spock fiddles with his lyre．


Having beamed down to a dubious area of Manchester，
Jim makes small talk with a transvestite
and these＇are all disployed on the bridge display．

Ir＇s the pessimistic Scolty who tokes control of the shields and power，and when the ship＇s engines get stressed hell gleetully scream the engines canna take it cop＇n！＂in a Scotch Conodian occent．

Principolly，you toke on the role of Krk who orders the other crew members to perform tasks on his behalf．For instance，if an object requires looking at，then vic your instruction， Kirk will instruct the relevant crew member carry out your commond．

As for os the missions are concerned，there ore eight of them in total．They blend a combi－ nation of control of the Enterprise to a planet or on hostle region of spoce with beaming down a crew to the surfoce to investigate a mystery．

Using the trusty mouse for control，Stor Trek styles its play in much the same way as Monkey tstand．This point and click system of movement is used in combination with a set of action icons．

A click on the right mouse button brings up a torso and head display．Moving your mouse onto this display enlarges various parts of the figure．This signifies which function can be utilised．

For instance，moving the mouse onto the heod magnifies an eye icon．One dick of your mouse and you are in a view mode and means that objects can be viewed and a text explano－ thon of what you are seeing is disployed．

As Jim，your prime directive is not to destroy everything in sight，but to liaise with diplomocy by communicating．Tolking is hondled in much the some way as Monkey Island，with you given various options of what to soy to a said character．

Again，like so many Hings in Star Trek，its grophical took is very much in the same vein as fittes the Monkey Island．Obviously this isn＇t a bod thing and the game＇s design is effective．

In the sound department，Star Trek is outhentic enough and all the clicky noises and whoops that occur during the show have been sampled and used．

Stor Trek has a lot of plus poinks to it．The missions require you to use at least a touch of your grey matter，and they＇re engaging and fun becouse of the TV show style of represento－ fion Interploy have opted for．

On the downside，I found that some of the animated sequerices were very ierky and quite
emborrossing to wath．One example is a digi－ fised animation of the Enlerprise orbting o plan－ et．This is so jerky the first time I wimessed i I wos going to ask Scolty to stop of the next ser－ vices and hove a look under the bonnet．
The other main gripe is the control system． Something that is a very user firendly ond eosy to become fomilior with is ruined by the terrible dis－ play and sluggish woy in which your mouse pointer stoggers around the screen．

While we＇re on this destruction of the Enterprise ond her beloved crew，I might as well mention the foct thot the game comes on sight disks．This hoving been soid，irs a big game，and ＂you canno change the lows of physics＂．So， you＇re going to need a block hole full of potience or a hord dive to enioy ploying Stor Irck．

On the whole though，Star Trek is on enioy－ able grophic odventure that most folk will toke to，and a definite must for the myriod of Trekky freoks in red jerseys out here．

SIMON CLAYS

VISION


AUDIO बのबのGOGOCO DIFFICULTY Gの囚GGGGGOO

LASTABILITY GGGGGGGOOO
Films，books，jerseys， even Mr Spock ears， so why not a com－ puter game？Star Trek is a great opportunity to slip into Jim＇s corset and ploy the captain of the most famous spoceship ever to grace the space lanes．

Publisher＞Interplay
Developer＞In house
Disks＞ 8
Price＞$\$ 34.99$
HD Install＞Yes
Size＞ 2 meg


The start of the Jurassic adventure and the Doctor finds himself all alone. Awww

Ihe biggest movie of all-ime ond I didn't see it, but I did watch the dreoded hype machine roll into action. I moy have missed the film, but I can tell you the storyline, who ployed who and what dinosours were in it. I's all thonks to the mass media who went "dino" crazy for a month last year.
While everyone was enthusing about how good the film was, Ocean, leading software house for film licences, were carefully plonning their Jurossic ottock. Ocean's Manchester offices were constantly bustling with workers morning, noon and night trying to finish Jurassic Park.

By the time they had eventually completed their task, the Dino fever hod colmed down, but along come Ocean with the game that every kid wanted and probably got for Chrismos.
For those not fomiliar with Jurassic Park, here's a quick run-down of the plot. Thanks to
astounding bio-technical advances, a group of scientists have brought back to life the most awesome creatures ever to walk the face of the earth.

These beasts are not just for scientists though, because multi-millionaire John Hammond has decided to turn the most incredible animal pre-


Dotted around the park are motion sensors with terminals attached. You can use them to gather information and look at the map of the paddock
serve of all-fime into a theme park.
As Dr Alan Grant, a world-renowned palaeontologist, you have been invited to examine the doned dinosaurs. The creatures are monitored and controlled by a huge super-computer and you have been assured that you can explore the island and see these breathtoking dinosaurs
in complete safely.
But something has gone terribly wrong, tha? always does. Jurassic Park's computer proger mer, Dennis Nedry, has sabotaged the secrl? systems. Electrified fences and motion semis are down and hundreds of fearsome prehistres predators have escaped their pens and par



Dr Alan stumbles upon one of the kids, now all you have to do is find the other one and get the hell out of the park!


An ideal opportunity for a bit of toilet humour! It's quite dirty. Shame there Isn't any Toilet Duckdasaur about!


It's Laura Dern and Dickie Attenborough. They don't look too well though!


Well, it's certainly not EuroDisney, although from what I can gather EuroDisney is far more horrifying!


Now that's scary! You fall foul to yet another raptor attack

Als to roam free on the islond.
laplors, spitters and even the feared tyranEsurus rex have overrun the forified visitors Fre. As Dr Alan Grant you'll need to occomWha a number of increasingly difficult tasks Hre you're free to attempt the toughest one of Thy geting yourself sately of the island.
You begin the game stranded in the tyranmaurus paddock of Jurassic Park. Nearby, Ewhere, are John Hommond's gronddhildren, Fand lex. You must roam around the park to F- them, and once found you must toke them Casgh various dinosour poddocks to the visiCricentre.

## EAMPANT

With hundreds of feorsome dinosours running Emont around the park, Dr Alan Gront must Exact himself with various weapons. You start Fand only with a tozer. This basic weapon Liess out a bolt of electricity which will destroy Ene smoller dinosours and stun others. You'l Hother weapons dothed around the park.
As well as weapons, there ore pick-ups which Ebe found inside or outside of buildings. You Aneed these items to complete your obifectives En get out of Jurassic Park. Some of the more minn pick-ups are ammunition and first-aid 5
Throughout the park are electronic motion Wors. These ore used to keep tracks of the Wescurs via the computer. Connected to the Wion sensors are terminols which can be used becll up informotion. You will also need the tercirals to control park functions, like opening Fas and doors.
Most of Ocean's film licences tend to revolve eand a mulli-level format incorporating differ

## Everybody walk the dinosaur



Compsognathus
Alternatively known as Compies, these small carnivores will attock in pocks, weighing you down by their sheer numbers. The compys will also bite, their venom weakens and will eventuolly paralyse you


## Dilophosaur

Also known as the spitter, this four-foot high kan-goroo-like animal seems playful and friendly When your guard is down, a brilliontly coloured crest fans out over its heod and then tries to spit a venomous projectile at you with speed and occuracy which can blind and paralyse


## Gallimimus

These mild herbivores will not attack you, but ore very eosily disturbed and are quick to stompede. They can run extremely fast and will run into you unless you get out of the way


## Triceratops

The triceratops is nearly the size of an elephant. II is built low down to the ground with huge stumpy legs and a massive head with three horms, the longest protuding from the middle of its face. They are very easily startled and will charge you


Velociraptor Entitled raptor for short this beost stands six feet toll the most vicious dinoscur that ever lived. They hunt in pocks and will attock just for the sport of ii. They con figure out where you are, how to get to you and even split up to head you off


Tyrannosaurus rex
The $T$-Rex is the most famous predator in history and is the classic blood-thirsty carnivore. Standing 18 feee tall with a head five feet long, the tyrannosour has huge and powerful jow which can swallow a man whole. They are capable of eoting a ton of food at one time


> The biggest movie of all-fime reaches the small screen, but is it a Jurassic classic or a monster flop?
-t gaming elements and Jurassic Park is no Erient.
There are two different sections to Ocean's for'em-up. The first is viewed from obove and Eadves a lot of running around while trying to Wid John Hommond's grondchildren.
The second is a 3D moze affair done very wach in the stle of Wollenstein on the PC. The


Ithought I saw a stegasaurus. I didd,
Idid, I did see a stegasaurus

3D bit is actually inside the visitors centre and you're slowly being hunted down by deodly roptors. The second section is much more atmospheric than the first thanks to the brilliont soundrick.
The grophics are dark and moody in this section and it really generates a spooky feeling within you. In foct, Amiga Computing staffer Adom Phillips was so scored when he ployed it


If there is one thing you must learn and that is that you must never insult a triceratops
that when a roptor iumped out of the dark at him occompanied by a orchestrol stob from hell, he literally iumped out of his seat. OK, so he got ridiculed for the best port of a week, but it just goes to prove that Jurassic Park is very scary indeed.
The first section contoins some quite luscious grophics. They're highly detailed and very colourful and the dinosaurs and some of the bockdrops are worth a second look. Your first go at Jurossic Park will probobly be very excit ing and highly enioyoble, but os time progress: es the more tedious the run around section will become.
Most of the dinosours except the really large ones are easy to kill, but they hove a tendency to keep re-appearing and just annoy you more than anything else. Luckily once you've complet ed a section you are given a code which can be typed in at a later date.

The odventure comes on four disks and is not hord drive instolloble, so you'll spend quite a bit of time swapping disks. As an example when you go to use one of the terminals you hove to swop disks and this becomes very annoying indeed. Jurassic Park contoins some really greot


Game over! Just one mistake and you've become more extinct than the dinosaurs
grophics and looks like one of the best film licence tie-ins to ever groce the computer screen, but unfortunately is let down by some really bod ployability. This mokes the gome boring in parts and gamers are easily going to lose interest with it which is a crying shame becouse, it could've been a classic.

JONATHAN MADDOCK

## VISION 

AUDIO


DIFFICULTY -

LASTABILITY

scores highly on the technical front especially the 30 maze
 section, butil is
untortunately let down by standard of playobility.

Publisher > Ocean
Developer > In -house
Disks > 4
Price > $\$ 25.99$
HD Install > Yes

$$
\text { Size > } 1 \text { meg }
$$

## Fantastic Dizzy

# FAM TASTICDIEEV： <br> ＂Roll up，roll up．It＇s the＇egg＇citing，＇egg＇splosive， ＇egg＇stravaganza－the refurn of Dizzy and this time he＇s ＇Fantastic＇allegedly．Tina＇corny jokes＇Hackett takes a scrambled look af this egg－type platformer from Codemasters 



1001 Knights or is it days？Effects time changes days into nights and nights into days

等antastic Dizzy is a puzzler／platformer whose main character is an egg las if you didn＇t already know）．OK，so there is nothing wrong with the consept of having a game bosed around eggs．I mean why not？There hove been Alien Ant－looking things， Spots，Blobs，and all forms of cutosy critters from dogs lo Hedgehogs．But Eggs？

However，five minutes into the game an awful realisation hit me－I＇m actually enjoying this sick－ eningly cute stuff．The graphics are colourful and detailed，the sprites humorous（although not high－ ly imaginative），and there are loads of different areas to explore．
This I can cope with but what storyline can there possibly be behind one egg？Well，appar－ enlly Daisy（Dizzy＇s girlfriend，who is also an egg）has been kidnapped by the Wizard Zak who has also cast a magic spell on Dizzy＇s friends．Life＇s tough for an egg．

And what an original plot that one is，not unlike any other plot for a platformer whatsoev－ er．Hmmm．Oh well，dodgy plot aside the game is actually quite good．
There are some great puzzle elements involved．Dizzy can carry up to three objects at one time and each one will help you in some


You can＇t beat a bit of bully
but for Dizzy it＇s no yolk
way，for instance you need to collect the plank of wood to help you cross the spikes or pick up var－ ious keys for the elevators．
＂Whal＇s so difficult about this？＂I hear you cry．Well，becouse you can only carry up to three objects you need to work out which ones you＇ll need to get you around an area．

This is where it becomes extremely frustrating

Dizzy proves he＇s a good egg collect the plank of wood and use it to cross the spikes
and along with only having three lives，the fact that Dizzy is not the most agile of characters and cannot get past all the baddies will drive you up the wall．
And this is not to mention the sub－games such as the mine－carts where you hove to travel along rail tracks avoiding the green monster creations and the buffers af the end of the tracks，which all combine to make it increasingly difficult to keep your Tourettes Syndrome－type outbursts to yourself．

The sturning bockdrops should compensate in some way though and the many colours involved make the game very pleasing to the eye．But what on earth are those huge black borders down the side for？And the loyout of the screens， with some of the scenery in the foreground， proves irritating after a while especially when


[^13]
## $5 \%$ 为 <br> ＂I＇m so Dizzy my head is spinning， like a whirlpool it never ends．＂

you stumble across some baddy hidden behind tree．

Another flow which becomes intensely onm ing is the long pause in between screens， cially when jumping from one level to another？ the screen flickers if you con＇t quite make jump．
The music used also leaves a great deal to desired and had me reaching for the vols switch in no time at all．
And the worst part of all this？Well，the gone play is actually good fun，frustrating as anyther but fun．Get me a straight jacket and send me a home for the mentally bewildered．

TINA HACKET


Dizzy gets smashed in the mine－carts with a strange green creature．

## VISION

## 

AUDIO

## GGOGOOOOO

DIFFICULTY

## GGGGGGOOO

LASTABILITY Gの＠GOGOOOO
A good plattormer wilh some interesting puzzle elements which should keep

## $0 / 0 / 0$

 you amused for a toir while．If you don＇t end up smashing yout joystick in fusstration firstl）Publisher＞Codemasters
Developer＞In house
Disks＞ 2
Price＞$\$ 25.99$
HD Install＞No
size＞ $1 / 2$ meg


## Genesia - a game of creation and power for 1 to 3 players.

The owner of a small land, you must expand and develop your population to become the most significant in the world of Genesia. In 5 worlds, each requiring unique strategies, you must manage everything, from food and water to employment and taxes.
Will you conquer the lands of your 2 opponents, or form an alliance with them in an attempt to recover the seven missing jewels?

Only with a strong economy, powerful army and new technology will you fulfil your ambitions.

## Cool Gpat



A helpful mode of transport I think you'll agree. A sneaky way to get lots of Strepsils, err I mean tokens


Hurrah, ose your chums Looks a blit crabby thee Oh no, my captions certainly der get any betse

platformers come and go without so much as a second glance from the games -playing public. So why should Cool Spot be ony different? What's going to make this release stand out from count less others? Have faith, believe me - this is different.
First I saw the console version, and gobsmocked by it I was too! I awaited the Amigo release with baited breath. I screamed, cried, sulked and blackmailed my way to reviewing it I mean, a girl's got to do what a girl's got to do. And boy, it was worth the effort.
Smoother than the guy's chin off the Gillefte adverts, faster than a Ferrari, and more playable than your little cousin's Scalextric, Cool Spot is quite something.
OK, so the game is based around a smoll, red dot, but hey, who cares? Certainly not me guvner


Captain Bird's Eye says "sniff my codpiece" in the docks level
and especially when playability is this darn good and the little character so well animated.
He lolls along, huge trainers and all, arms swinging at his sides looking as it he hasn'to care in the world, not looking even slighty perturbed that all his friends have been kidnapped and locked in coges, and that he must rescue them.

He must collect a certain number of red tokens which can be found around the level, before he can locate and



> Virgin have taken the most undesirable of undesirables - namely a facial blemish - and turned it into a computer game. Tina Hacketf goes dotty over Cool Spot

then blast open the cage containing one of his chums, thus rescuing him.
Other objects con be found and will help Cool Spot considerobly such as super-cool counters worth seven normol tokens, or one ups usually hidden behind parts of the scenery.
The scenery iself can olso help. Cool Spot can get around by means of floating bolloons, blobby bubbles and bouncy bubbles. Parts of scenery can also be moved by pushing against them.
Cool Spot is armed with fizzy


Spot messes with the big cheeses. Watch out for those traps though, they can eithe propel you to new heights or.... splat!
most co-ordinoted gamesployer.
The exceptionolly wonderful graphics and bri liant sound effects will ensure that you dotl become bored, too. The funky/jazz/reggaz music will cater for all tostes and is well aboer some of the usual platform dross.

Nice touches, such as the way Cool Sper yowns when leff standing, or wipes his sunglow es, show the huge amount of attention to deter that has been lovished on this release
$\mathrm{Mr} \mathrm{Cool} \mathrm{is} \mathrm{definitely} \mathrm{the} \mathrm{spot} \mathrm{with} \mathrm{the} \mathrm{lot-}$ plafformer addicts everywhere will lurve it ort wont to hove its babies.

TINA HACKETT

## VISION

## の00600600

AUDIO

DIFFICULTY

## OOOOOOOOO

LASTABILITY

## 0000000000

Cool Spot has been well animated, is graphically brilliant and plenty of amus ing touches have been added to make this an exceptional plattormer Buy it or be a blackhead forever!

Publisher > Publisher: Virgin
Developer > In house
Disks > 3
Price > $\mathbf{\$ 2 9 . 9 9}$
HD Install > No
Size > $k$ meg

# "Yo, ho, ho and a bottle of rum", "on a dead man's chest", and other piracy-łype conversational titbits - it's fime for some treasure that's been rediscovered on your CD32 

A$h$, what a romantic notion. To sail the seven seas, to explore uncharted waters, and most of all to seek your fortune by finding hidden treasure.
I only life fighting it out on the Spanish Main ted been like it seems in Errol Flynn movies. Shart tunic, nice shiny boots, a big sword and a Tity princess with a penchont for pirates.
You meet her in Scene Two when your sloop meruns her fathers bullion boot. You ransock the essel and afterwards she demands you be well lng . Scoffing, you reploce your trusty blode in a xobbard.
Heving raped and pilloged your woy around $4 r$ fothers boot, you and the crew toke her leave the singing a pirate-like ditty, confident in the hoomedge that she's follen in love with your nonAdont, happy-go-lucky attitude.
Unfortunately, the reality of the situation was tat in the first place you'd have been press: prged into joining the band of miserable deck Fh
No smart tupic, no shiny boots. Just a dirty $4-\mathrm{p}$ sack shirt, gangrenous beard and a green bog that follows you around everywhere.
Given these paramelers for your apparel and procal look, it comes as no surprise that the there's more chance of the beautiful senorita runing off with Coptoin Pugwosh than your good el.
Given the reality of the situction it's a good job ber the imagination of Hollywood and computer athware programmers.
Although Pirates takes most of its romentic tement from Hollywood, large chunks of the satharios ore lifted directly from the onnols of tisory.
For instance, you can choose to unbuckle your tirash over a period of some 150 years, taking on the mantle of a Brit or a number of now EC nembers who we English weren't very friendly wh of the time.
If becoming a Spanish pirate, or a French thenlurer isn't enough to satiate your desire for


After you've been sailing around for weeks
Hey, pal. You and me against the world, eh?
plundering friendly, defenceless traders, then you can don the garb of a famous explorer or one of the more infamous rogues to sail the high seas.

Having pondered over whether to play Captain Morgan or Francis Drake, you have the opportunity to make a few other choices that have a direct bearing on your future.
For example, you can adjust the difficuly level and more importantly select your special ability. This range of skills varies from expertise with a sword through to charm with officials and more imporfantly, the ladies.
Once you've deliberated over your options, it's time to cast off and head out into the blue and briny. The basic cim is to joumey around various areas of the Caribbean strengthening your ship, bolstering your band of jolly Jack tars and seeking your fortune.
There are various ways to achieve this most roguish of task, each of which revolve around piracy on the high seas. You could choose to work for the governor of a particular island, following orders and reaping the rewards that being in his employ bring.

Alternatively, you can follow your own instinct and take to the briny in search of untold treasures and wreck havoc in the shipping lanes of the traders, purely for your own benefit.

However, a life on the ocean waves is also fraught with danger for pirates. For one, there are quite a few other piraletype people knocking oround the sea lanes who've been at it far longer than you will have been lyou can generally assume that by the fact that they can do a better "Ha ho Jimlod" than you).

Also your crew need their
On guard! This is the
bit where you truly unbuckle your swash and swing your short swords about


Row, row, row your boats merrily down the stream, huh, what a ship caption!
feed, grog and plundering; morale must be kept at a level which keeps them subdued. Failure to maintain your boys results in a mutiny, which uttimately means you ending up in a rowing boat in just your pants with your tricom showing.
Keeping everybody on board smiling means landing at friendly ports to stock up on food, booze and debauchery. It also serves as a fine opporturity to charm the lown's gentry and perhaps find yourself a gossiping wife who may reveal the location of daddy's assets.
All of the sailing and fighting is displayed using an overhead view. You control your ship's direction and can increase and decrease your speed using your masts and sails.
The outcome of a battle can depend on many different things, For instonce, if the wind is light then you can get caught and stand a good chance of catching a broodside.

However, if everything is fovourable the basic objective is to render the enemy immobile and then maraud with your greasy boarding party.
Once you've boarded, the play alters to a sword fight between you and the opposing captain, the winner taking the spoils.
This updated version of MicroProse's earlier release doesn't differ too greatly apart from a really neat ray traced animated intro and a proper Cornish pirate-type iig soundrrack.

Although there don't seem to be too many radical changes from the original Pirates, the
whole game seems to benefit from both the slick accessing of a CD, and the almospheric advanloges this media grants you.

On the whole Pirates is a more-than-playable foray into the folly of days of olde, when men were pen and parrots were either quiet or stiffed.
Even though most of the game has been ported (sailing type joke, no?) over from the Amiga 500 , Pirates is still well worth your pieces of eight.

SIMON CLAYS

## VISION GGGGGGGOO

AUDIO GのGGOGGOO

DIFFICULTY


## LASTABILITY 0000000000

-Shiver me timbers, Microprose have freshened up Pirotes

800

## for a new genre and

## tweaked it quite nicely, If the idec of

 sailing around on a large plank of wood wilth a band of moustachioed blokes in search of butied treasure shoots your cannon, then this is deffnitely the one for you.[^14]
## Skidmarks

Burn rubber, slam down the accelerator, and skid like you've never skidded before in Acid Software's amazing little racer .

Yet another car racing game, but hey it's got a comedy file and it's one of the most playable and addictive lithe numbers live ever laid my hands on.
I don't know about you, but I absolutely lune racing games. They bring out my competitive human spirit which is a bit of a dangerous thing to do. I unfortunately tum into a dribbling pay chopath who will toke on everyone in the whole world and try and beat them into submission.

The only slight problem is that if I lose I get these really bod feelings of intense hate and hove to go and lie down in a darkened room until im . calm once more. Coll it bod sportsmanship, but I con't help myself.
This always happens when I'm playing a racer. Why? I don't know, but my psychichist told me to keep toking the pills and stop well away from them. Then out of the blue, Skidmarks happened (ch dear).

My whole attitude changed literally overnight and its all thanks to those wonderful people at Acid Sohwore who hove created the cure to my problem. \&. If I win lm happy, but now if I lose If still


Those skidmarks are building up, better wash those pants! cheap gag I know, but it's the only one on the whole page
happy and if's all because Skidmarks is so much fun. I con forget about my loss instantly because no sooner have I finished one game then I've started the next roce-up.
There is one snog in all his, and that is that It completely addicted to it now ond'm having: real trouble trying to turn my computer off.
by golly it works. The objective is to race around 12 rocks against three other competitors leather human or computer-controlled) and thus try to win the race.
You receive points for the position you finish in - the higher the position the higher the points and the racer with the most points after completing the 12 rocks is the champion.
Before you start, you must seed your cor from four. You must decide between a Porsche, Comoro, Monster Truck or Dirt Buggy and which particular shade of point you want your motor in. I can heartily recommend the lode or the light purple!
The number of different cars you can hove will depend on the amount of memory in your com:puler and whether you are using the enhanced AGA cars.
The AGA cars ore slightly more detailed than the bog;stondard ones - os on example, the AGA cars hove numbers on them. Not that useful 1 know, but often irs these little touches hat tum good piece of software into a excellent one.
Another nice touch while were on the subject Is that when the cars go around the track they leave skidmarks behind them, and the track eventual becomes chewed up.
There are three modes of ploy in Skidmarks: Practice, Math race and Championship. Proctice las the individual plover race the frocks without any competition. Match race is for competing in ene -off races on any track, while championship lats the player or plover participate in a six-trock series competing for points.
As with most racing games, it's more satisfying competing against a friend rather than your computer and Skidmarks is no different. By link. ing up two Amigos with a standard null modem coble you con hove a four-ployer race!
The two-ployer option is a bit restrictive though because the screen halves and unfortvnot ll you see less rock, but plenty of practice will put that right.
One of the best features of Skidmorks which I've failed to point out until now is the standard of the graphics. To soy that they are excellent is quite an understatement.
There are 800 frames of animation for each

cor, all of which hove been lovingly roy trows The tracks are just es good and are we? designed and no mother how long you ploy its don t gel tedious.
The graphics and sound are amazing, hat redly mokes Skidmorks stand out from 1 est is the foot that it is so playable. With ployobiliy being so good this in-tum mokes one of the most addictive lille racers you of buy.

With more rock disks on the way from Ass sohwere you're almost guaranteed you'l new get bored. I could go on for hours precising the game, but I really only need to say two word Buy i.

JONATHAN MADDOX


Coo, all I meed now is 16 buses to jump over!

## VISION

0○○○○○○○○○

## AUDIO


DIFFICULTY


LASTABILITY

skidmaiks has got genus graphics, superb sound and is highly playable and
unbelievably addictive. A very polished racer that totally destroys all its competitors!

Publisher > Acid Software<br>Developer > Acid Software<br>Disks > 4<br>Price > $\$ 225.99$<br>HD install > Yes<br>Size > 1 meg



| SDIth EqS: |  |  |
| :---: | :---: | :---: |
| Adams World | Finchley | 0814467170 |
| A \& C | Famborough | 0252375088 |
| ACM | Alton | 0420541167 |
| Barkmans | Kingston Upon Thames | 0815465941 |
| ADM Computing | Kent | 0227762590 |
| Bits ' $n$ ' Bytes | Ipswich | 0473219961 |
| Computer Cavern | Reading | 0734583062 |
| Computer Cavern | Wallingford | 0491834366 |
| Computer Cavern | Marlow | 0628891101 |
| Computer World | Canterbury | 0227766788 |
| Database | Thurrock | 0708890976 |
| Erol Computers | Walthamstow | 0815207763 |
| Faxminster | Hatfield | 0707272919 |
| Gamer | Brighton | 0273728681 |
| GB Microland | Waterlooville | 0705269333 |
| Input | Rathbone Place, W1 | 0716362666 |
| Invicta | Tunbridge Wells | 0892511542 |
| J.C. Computers | Hampshire | 0252311766 |
| Logic | Cheshunt | 099225323 |
| Platinum | Essex | 0268778909 |
| Spa Computers | Leamington Spa | 0926337648 |
| Softly | Milton Keynes | 0908670620 |
| Sore Thumbs | Billericay | 0277633003 |
| Norih East: |  |  |
| Maughan Micros | Gateshead | 0914932308 |
| Chips | Middlesborough | 0642252509 |
| Tomorrow's World | Hull | $048224887$ |
| Topsoft | Stockton | 0642670503 |

For your nearest Computer Store dealer telephone
Head Office on: 0302890000

## CSTOPRESSS

Europa House, Adlington Park, Macclesfield SK10 4NP Telephone: 0625859333

## Laugh while you learn ...with <br> 

Explore English, Maths and French with ADI, the lovable extraterrestrial. As you learn, he'll entertain you with funny remarks, whistly voice and weird faces. He'll congratulate you when you do well and cajole you if you make mistakes.

There's one package for each school year and the software closely follows the guidelines of the National Curriculum, drawing on the talents of some of the most gifted teachers in the country.


## Available NOW: <br> English (112) (20) (3it)

Having problems with your nouns and adjectives? Can't sort out your suffixes and prefixes? You need ADI English, covering all the basic elements of English grammar required by the National Curriculum syllabus.

## Maths (1122) (212) (32) (4)

If your algebra and geometry are causing you grief, look no further than ADI Maths. These are just two of the topics covered by the packages whatever your maths problem, ADI's got the answer:

## French (112) (20) (32) (17)

Say bonjour to French with ADI! The ADI French 11/12 package introduces first year students and beginners to France and French, and older students will find the $14 / 15$ package ideal as a revision aid.
...and each pack costs just $£ 25.99$ !

## Join the ADI family today!



Europa House, Adlington Park, Macclesfield SK10 4NP Telephone: 0625859333


> Available for the Amiga, PC and ST.

[^15]|'s a strange old world isn't it? how many times punters, have you had déjo w? ? 'd guess probably a few fimes, but not as many os yours truly, who sees replicas of the same game ideas repecoled several fimes a week.

Oddly enough, the most common done of oll is the rocing game. After all if you make a bog-stardard plafformer, at least the character can look slighty different from the lost you sow.

But in the racing circuit, there's only one definitive set of trocks, one set of cars with the same markings and one set of named drivers.
As a rule, car races are the type of game l've alwoys revelled in and enioyed, but there does come a time when a genre becomes "tyred" and the proverbid "exhous" becomes exhousted.
This is not to say that there hasn't been a boot-lood of dassics dong the way. You've only gol to toke a littele look at the likes of Formula I Grand Prix or Vroom to apprecide what a classy rocing game's driving ot.
Uncomnily enough, the link here is that Domork's latest offering to the games world is programmed by non other than Lankhor, the people behind Vroom.


On yer marks, get set, oh, go on then, wiggle that joystick

I don't know how many of you remember Vroom, but lee me tell you it wos a dassic. French softwore house Lankhor wórked wonders and probobly pro duced the fastest Formula 1 racing game ever for the Amiga.
Well, now they're back with their second offering with the full and unadulterated approval of the motor rocing sports governing body, the FIA. What this means is thot the game can feature all the official trocks, drivers, constructors and odverisers.
Someone please correct me, but bar the odd name, everyone's used all of the obove without the officidl recognition of their produd, so I don't think it means that much. However, irs a nice touch I suppose, and will no doubt help F-1 to sell a tod more easily.
That soid, the proof is in the pudding and i's she ploy ond look that will determine the success of this
release. So with this in mind leers don our overalls, wolk gingerly over to the piss and find out whether F-1 is a blow out on the first lop, or a model snogging, champagne-spurting winner.
Ploywise everything begins in the Options menu, where you delermine the type of roce you want to run. You can decide to troin on any of the 12 tracks that form the world championship, to familiarise yourself.
You can olso select on arcade version of $\mathrm{F}-1$ which puts you on the self same tracks, but asks you to overtoke an increasingly larger number of cors to qualily for the next circuit. Lost but by no means least is the full blown World Championship mode.

> At long last it's the green light. The ideal opportunity to take on the mantle of Mr Mansell! Blame everybody for everything including your own mistakes and generally suffer from a strange accent...

This puts you up agoinst all the lop drivers ying for points over all the worlds top circuits, or allows you to choose an individual track to compete on.

Success, as usual means poins for prizes, with o win giving you ten points towards the drivers championship and the same quantity going to the con-
structors in their battle to be the best.
As usual in this style of tite you con odius skill level to render it playable in the early and to give you some challenge once youve tered the control ond courses.
Skill levels can be adjusted between the

## TRACKS O



BRAZIL - Interlagos
A demanding but rewarding circuit with two top speed straights. Spend too long having tyre changes and you'll be surprised how quickly your opponents catch up


SAN MARINO - Imola
Here's a track that will having you driving to your limit. The course is very fast, but try to remember where the chicanes are as they'Il require some hectic braking.


SPAIN - Barcelona
A hard course with corners that appear from nowhere. An important track to keep your eye on the map


## MONOCO - Monte Carlo

Probably the most famous circuit in the world. Raced on the streets, you'll find qualification as important as the race since overtaking is really tricky.


CANADA - Montreal
This Grand Prix will put tremendous pressure on both your tyres and brakes. Try te remember your braking points so you're caught out by some of the slower corners.


FRANCE - Castelet
Situated between Toulon and Marseille, Castelet has one of the most spectacular chicane sections of any motor racing circuit


Ir , III have a packet of crisps, a box of matches and a paper, please
\#uble cars that the novice drives, right through to th hyper-sensitive, lightning fast ones of the experts. You also have the option to alter the wings of ar hot rod, and much of this depends on the track $\pi$ which you are competing. For example, setting or wings in a low position gives you less drag givs you a higher lop speed, whereas a high setting perates in reverse and makes you stick like the Tom stuff.
You also have the opportunity to change your Ires, the gearbox and just about everything else anceivoble. In fact, one of the only things you can't Zange is your underwear affer you've careered into mod hoarding. Once you're on the grid you can
elect to quality or go straight into the actud roce. Attempting to quality is probobly the best policy as you have a chance to improve your position on the starting grid, rather than the defaut position to the rear of the grid.

After all the preparation work, it's finally time to test your skill and nerve in the race. Graphically, F-1 is very similar to its older brother Vroom, and has the same feel as it.
This is by no means a bad thing as Vroom not only looked good, but moved at a tremendous rote of knots. If you'd like proof of the speed of F-1, juss select the Turbo mode and watch your car fly around the track. If you have any trouble during the


Well, at least you can't clamp my front wheel now


Here's the bit of paper that Murrey Walker reads from on a Sunday afternoon
course of the roce then you can enter the good dd pit lane. Here you can get your mechanics to break into a sweet, changing your tyres or refuelling your sporty motor. However, time being of the utmost

## IY TEARS



BRITAIN - Silverstone
Silverstone has been recently revised because it's just too fast. Now the circuit is one of the most challenging around.


## CERMANY - Hockenheim

A dangerous forested circuit which
is mainly made up of straights.
Your car should be aligned to a
low downforce setting.


BELGIUM - Spa
A popular circuit due to the precision required to hit fast lap times. However, contains a particularly dangerous first bend as the cars rush from the grid.


## ITALY - Monza

The most incredible part of this track is the top gear Parabolica corner which leads onto the start-finish straight.


## PORTUGAL - Estoril

A circuit comprised of long sweeping bends. Overtaking isn't too difficult as long as you are prepared to leave the racing line.


AUSTRALIA - Adelaide
A street circuit which may have you wishing you selected an auto gearhox. Setting the car is a difficult task on this course as it contains long straights and twisty sections.


This is the options screen which is almost as interesting as Nigel Mansell
importance in the high tech world of motor racing, you've no time to get yourself a nice munchy bar or glance of the overpriced lopes, it's slraight back into the race.

Perhaps the best option of all is the two-player split screen game. This allows you to race against not only the other competiors, but also one of your mates.

To a large extent $\mathrm{F}-1$ is very similar to its older brother Vroom with a few alterations. This said, it's a quality product and runs extremely smoothly on the Atari. In fact, I'd go as for as lo say that F-1 could become the definitive arcade racer on the Amiga.

SIMON CLAYS

## VISION



DIFFICULTY大 $\star \star \star \star \star \star \star \star \star$

LASTABILITY $\star \star \star \star \star \star \star \star \star \star$

Nice graphics couNice graphics cou
pled with brilliant play, make Domark
F-1 a must for all

lovers of a quality arcade racing

Publisher > Domark
Developer > Lankhor
Disks > 1
Price > $\$ 25.99$
HD Install > No
Size > 1 meg

## Labyrinth




The world's ecology breathes a sigh of relief as Ronald McDonald is decapitated
open and close things and take and move things.
It's reminiscent of the very old school of adventure games which rather than using a party of cliched adventures, use you as the principle character and display your view on the screen.
Because of the foct that Lobyrinh uses you as the hero rather than a strapping band of dogooders, there are less controls and statistics to be concerned, or rather confused obout.
I have to say at this point that I found lobyrinth totally engrossing and the most involving fitite that 'ive had the good fortune to get my hands on. This surprises me to a cerrtain extent as I never thought that this type of fitle could fitillote me as much as it has.

One of the main reasons for this is the unusual noture of the plot and some of the bizarre locafions that you hove to visit. The other thing that strikes you is the fact that there is little or no violence in it of all.

In foct, thus for l've not encountered any nosties at all. This is quite refreshing as most odventures cram as many naff skeletons and dumb ores in to them as is possible.

One of lobyrinth's strengths is its story. At the beginning you know very little, but as you progress the plot develops in a very exciting but noturol way. This is very deverly manufoctured and odds deph to the play,
as the fitbits you uncover acts as clues to the solving of the maze.
Also, the puzzles are extremely odd but well thought out and hove a nice feel of surreal com-mon-sense about them. At this point an example would be extremely convenient, but I know it would ruin the satisfaction you'll get when you solve them for yourself - honest it's not a lame excuse to cover up for the foct that I didn't solve any.
Graphically Lobyrinh is unsurpassoble, it just looks the dog's conkers and it's full of nice graphical touches. One such touch within Labyrinth is the fact that you can examine objects by zooming in close on them, revealing them in their full ray-troced glory.
Most of the hounting noture that is coptured within Labyrinth is down to the sound track. I's a combination of ambient tunes and the Scotty Doo music, but it works to great effect and really helps generate that all important atmosphere that normally is missed in most games.
There are also a great deal of sound effects involved, with the music Lobyrinth boasts over 25 Mb , even down to the sound of a toilet flushing - don't ask.
The bottom line is that Lobyrinth is a superb addition to the adventure genre. It has amazing stylised graphics and a level of depth and playability seldom found in computer games these days. It's great news for punters who've put
shelter, Marvin was astonished to discover that the fractal on the wall was of more interest than the mysterious mirage of his own planet reflected in the glass
foith in Commodore and bought themselves a CD32, becouse this is a fitte which starts to truly show a little of the machine's capobility.

If you own a CD32 I urge you to get down to your local computer emporium and buy this engrossing titite, irlll have you grinning from ear to ear in no time.

## SIMON CLAYS

## VISION

 जGGOGOGOGOAUDIO


## DIFFICULTY

 GGGGGGGGO
## LASTABILITY GGGGGGGGO

Labyrinth has everything obout it to moke it a classic in

## 9 $24 \%$

 the adventure games sphere. A real winner with every element a piece of computer software is supposed to have, superb in every department.Publisher > Electronic Arts Developer > Electronic Arts Price > $\$ 24.99$

## Tornado

$0 R$ bors of NATO forces there's one plane that has the reputation and respect of pilots. and engineers olike.
The Tornado, or Panavia Tornado GR. 4 Interdictor/Strike (IDS) and F. 3 Air Defence Variant (ADV), is a plane with one hell of a reputation and quite a long name (we'll just refer to it as the Tornodol.
If you kept obreast of the war in the Gulf, you'll be more than aware of the role that the Tornodo played in the first few vitol doys.
The whole of the Allied strategy depended strongly on air supremocy. To achieve this tosk, the Tornado was charged with destroying all of the lroqi airboses.

As history now tells us, the Tornado was as good as its word and successsully implemented a most crucial part of the Allied offensive.
The reason it succeeded so effectively and with so few losses is beccuse of its ability to fly into enemy territory at high speeds, at such a low ali;tude, ond to deliver its lethal paylood with such devastating accurocy.
Included in Digitol Integration's simulation are both of the oforementioned Tormado types. The ADV is equipped as a long-range, longendurance two-sect interceptor. It carries a special radar equipped for air-to-air combat and a heality stock of rodar-guided missiles.

Its stoble companion, the GR4, has an altogether different role, and finds itself utilised for pinpoint bombing and recce work.

The first thing you notice obout DP's simulation is the size of the monual included in the pockoging. Now, I'm not implying that the size of the manual improves the power of the game, in fact for from it.

But, in Tornado's case you have a very comprehensive and user friendly piece of literature, which is concise and informative.
This is indeed a good thing beccuse the makers of F-16 Combat Pilot have come up with probably the most accurate flight simulator to appear on the Amigo.
Testimony to this is the foct that the mission


Inside the cockpit our hrave pilot circles above the M25 in vain search of South Mimms services
planning system Digital Integration developed for Tornado has been authorised for service in the RAF by the Ministry of Defence.

Obviously it's not the exact same system and has been developed by a company specialising in computer software for the militory. But, the rudiments and specifications of the system are unconnily similor.

Being the war correspondent for Amiga Computing, I was given the uncertain job of flying this beast. The first thing that greets you in Tornado is the options screen. Here you can choose to fly a simulotor, select a training mission or fly in a combat mission.
The other thing you can elect to do is alter the preferences. Most objects and landmarks adjusted. Unfortunately riding shotgun in the cockpit even on the A1200 to achieve any speed in play you have to play on the lowest detail level.

Before venturing into the cockpit of the real McCoy (please excuse the artistic licence), it's best to spend some time on the simulator.
You can select from 17 varying missions which should prepare you for real training flights. The real joy here is that there's no danger

She flies like a bird in the sky, she flies through the air and I wish that she was mine... That's the Tornado folks, not Maggie or the Nimble ad, honest

"Oh, it's an absolutely raunchy view of an F-15" he said in his best Raymond Baxter voice. Now there's a bloke with a fetish for jets
can have their detail Oh no, it's Raymond again, and he's
 your lycra jumpsuit you can ponder over a few other options. For instance, you can examine your woypoints and determine the height, speed and target objectives necessary.

Also, you have the option to adjust the payload on board your Tornado, either to suit the mission type or yourself. Alternatively you can

Alternatively you may feel up to the challenge of the compaign option which throws you into conflict in all three zones. Here there are a total of some 24 objectives to overcome, and because it's a real scenario the missions have to be completed sequentially.

As you meander As you meander
over to the hangar in
of making those little mistakes and errors of judgement which inevitably change your size from a stocky six foot to a very thin two miles.
Once you're happy that you're conversant with the displays and instrumentation and the most dangerous thing you're likely to do is mount the kerb when you reverse your Tomado into the garage, it's into the air with you.
Training features a total of ten different missions for you to sink your teeth into and in all cases when you've completed them you get a nice little tick from teacher.

Although ir's not imperative to complete all the training missions, each one gives you experience in aspects of the Tornado flight parameters and its different bombing techniques.

After some time rehearsing manoeuvres this pilot finally took to the air. There are three different warzones to fly over, each featuring a total of 14 missions each.
nsion type or yoursel. Alt
"Four thousand holes in Blackburn, Lancashire..." Crikey, I thought John Lennon
was spaced out when he wrote that lyric. Now I know it was just a flight of Tornados out on an afternoon's bombling practice

## Lethal weapons or Top Trumps ?



## Tornade GR4



## Category: Two seat all-weather air defence interceptor <br> Origin: UK

Wing span: Fully spread: 45ft 7.5 in Fully swept: 28if 2.5in
Length: 61 ft 3 in
Height: 196 in
Weight: 31, 970lb
Max. weopon lood: 18, 740lb Max. level flight al alfitude: Mach 2.2 Max. level speed sea level: Mach 1.2 Radius of action: 1000 nautical miles G limit, +7.5


## Category: Single seat ground <br> attack aircraft

Origin: CIS
Wing span: Fully spread: 45ft 10in Fully swept: 25 ft bin
Length: 56 ff lin
Height 15 h 10 in
Weight: $23,5901 \mathrm{~b}$
Max. weapon lood: $9,9201 \mathrm{lb}$
Max. level flight at alfitude: Mach 1.77

Max. level speed sea level: Mach 1.1 Radius of action: 210 noutical miles G limit. +7


## Category: Two seat all-weather

 interceptorOrigin: CIS
Wing span: 45ft 11 in length: 70ft 6.5 in Height: 18 ff 4 in Weight: $48,115 \mathrm{lb}$ Max. take-off weight: $90,725 \mathrm{lb}$ Max. level flight of alfitude: Mach 2.4 Max. level speed sea level: Mach 1.1 Radius of action: 1, 135 nautical miles
G limit: +5


## SU-27 Flanker




Medium transport helicopter Origin: USA
Moin Rotor Diameter: 60ff Lenght: 98 ff 11 in
Height. 18 ft 8 in
Max. toke-off weight. $54,0001 \mathrm{lb}$
Max. level speed sea level: 163 kts Radius of action: 100 noutical miles
your munitions fall to earth.
Tornado is one of the most comprehensive military simulators ever to appeor on the Amiga and it boasts some really impressive fectures.

It's an amazingly detailed piece of software. For example, just like in the real RAF, timing is of the utmost importance. If you are delayed while in flight and foll behind schedule there's every chance that you'll crash into a fellow Allied jet or at least ruin the mission objectives.

Not only do you get a most realistic looking, accurate simulator but you also get all the other more cosmetic touches like external and chase views.

On the down side, Tornado's a little slow when it comes to screen update and probably is best suited to the high-end machines.
This apart, Tornado is a very well accomplished title and one which will please flight fons the globe over.


Surface-to-surface battlefield missile launcher
Origin: USA
Length: 12 ft 11 in Diameter: 8.66 in Weight: 675 lb
Range: 20 nautical miles

## VISION

 OROQOQOAD
## AUDIO GOGOGGGOO

DIFFICULTX


LASTABILITY GGG@@GGGGO

## A very occurote.

 accomplished, well developed, smart simy- lator which will toke you
a while to get to grips with. This sa a tille which will oppeal more as your undentanding of ilt does.
Publisher > Digital Integration Developer > In house

Olisks > 4
Price > $\$ 34.99$
Helinstol> Yes
size > 1 meg

## RUBY CHARTBUSTERS



*PLEABE WOTH TTLES ASTERISKED MAY NOT BE RELEASED AT PRESS DATE BUT WLL BE DESPATCHED WTHW 24 HOURS OF RELEASE SLINECT TO AVAL LOUTY. PLEASE TE EPHONE TO CAECNOT SHOW ALL TILES AVAMABE ALL TMES SHOWN AS WE BACK ORDER. REMEMBER, WE HAVE NEVER DEBTED A CREDIT CARD YET FOR GOODS NOT SENT

## PC AND SEGACAMES

## RUBY SERIOUS/EDUCATIONAL

| $S T$ | amias | FUN SCHOOL 4 (7-11) | 95 |
| :---: | :---: | :---: | :---: |
| ADI ENGLSH 11/72-12/13-13/14-14/15 EA ...... 12.50 | -. 19.50 | FUN SCHOOL SPECIAL PAINT AND CREATE SHINA. | 17.95 |
| ADIMATHS 11/12-12/73-13/14-14/15 EA ....... 19.50 | -19.60 | FUN SCHOOL. SPECLAL SPELLING FAIR 7 -13.....NA. | 17,98 |
| ADI JUNOR READING 48-67 EA.....................NA | 14.99 | FUN SCHOOL SPECIAL. MERLINS MATHS 7 7-11...NA. | 17.85 |
| ADI JUNIOR COUNTING 45-67 EA..................NA | 14.99 | HENPIETTA BOOK SPELL (LUNDER) ........... 17.95 | 17.95 |
| ADI FRENCH 1//12-12/3-13/4-14/15 EA..... 12.50 | 19.50 | HOORAY HENRIETTA | 17.25 |
| EASY AMOS ....................................................... | 24.95 |  | 17.95 |
| AMOS PRO COMPILER .............-....................NA | 24.99 | MAVS BEACON VERSION 2 ALL AGES.............NV | 19.95 |
| AMOS PRO NEW PAICE* ..............................NA | 32.99 | MINI OFFICE...-............-..........................N/ | 48.95 |
| COUNT AND ADD (LANDER)........................17.95 | . 17.95 | NODDYS BIG ADVENTURE 3t............................... | 17.95 |
|  | . 64.95 | NODOV PLAYTMME S + ............................... 17.05. | 17.95 |
| DELLXE PANT 4 M 1200 VERSION................NA | 64.95 | OFFIOE GOLO VBAGA - .... NA. | 69.95 |
|  | 89.99 | SCALA 800 ..............................................NA | 74.95 |
| FUN SCHOOL 4 (UNOER 5) ......................... 17.25 | 17.96 | SCALA PRO.........................................NA. | 179.95 |
| FUN SCHOOL 4 (5-7) ................................ 17.95 | 17.85 |  | 17.98 |

## CREDIT CARDS DEBITED ONIY ON DAY OF DESPATCH.

HARDWARE


## RUBY BUDGET





## SOCCER MANIA

## FOOTENL MNAGER 2

GAZZAS SOCCER,
MICROPNOSE SOCCER AND
FOOTBALL MUNAGER 2 WOALD CUP EOMON
AMIGA 5001.2 1.3 NOT PLUS. MAY WORK ON
SOME MACHINES WITH KS 1,3
OUR PRICE ALL FOUR GAMES
ONLYEIG:
THE GREA TEST
PAOEABCY THE BEST PACK EVERII
MMM WHIES SNOONEA, LUAE OF THE
VERSION SHUTTLE GREAT PRICE Ez20
NOW ALL TITLES WOAK ON 1200 m
TRIPLE PACK 1 OWL Y E1a.99
FIRST TME THAT DEUTROUS HAS WORKED OW THE AWGA + II
TAUPLE PACK 2
BOXONG ND LANCASTER
TRIPLE PACK 3
TTUS THE FOX, GHOSTBUSTEAS 2 AND
TARGAA ONLY Y ETO. 90 + OK
TRIPLE PACK 4
THE BLUES BROTHERS, MAYA AND SATN


Please charge my Access/Visa No:

| ORDER FORM |
| :--- |
| Pleese supply me with the following for |
| Computer.................................. |
| Titles Price <br>   <br>   <br>  P\&P |

Date
Name
Address

Tel







Howne ploses allow for chevue claranco. 2 ajon.
Dopt AC MuIsch Ma)

## Campaign II

Mention the word war to me and it sends a shiver running down the bone of miry slightly custard flavoured spine．That＇s not to soy
you．On a personal livel the idea of enlisting into our armed services never even surfaced inside our armed serviges n
this reviewes

＂I see a red door and I want to paint it black．．．＂ Does this mean I＇m in for a tour of duty？
that I＇m a coward，you anderstand．
It＇s just that the thought of lying around in excruciating poin in some mud－ swamped field woiting for medics to relocate by arms and legs fails bexhilarate me．Gut， hol＇s not being a cow ard，that＇s just plain sensible．
I don＇t thing 1 多 bullets，missiles ond
other weopons that ri

Fortunately，with the advent of the computer
or come bong up to date and employ the technol ogy used in the Guil Wa
Obviouth to offect 50 yeers of condlio the witp：

 implerrensid to give you such weopon systems os guvded fissiles，fixed and moblith sited rockets ond homing missiles
Another pojor inmplementation is the use of oerial forces．You now heve the option de usingo full ronge of helicoplers，which－odds both to the amount of playability of your disposol ond the overall strategy angle of the product．
The user interface is very similar to its older brother，and involves a main ploying map and a set of icons from which you control your forces and assess the strotegies．
Before you endeavour to toke on the might of the Egyption ormy in the Six Day Wor or become the Isroeli commondos in the Yom Kippur Wor．

## CAN

The Killing Fields


1．$=$ Sove Game
2 2 $=$ lood Geme
$13 .=$ Ploca Names
3．$=$ Adous Heightr
14．$=$ Smol Rivers
4．$=$ Mop Iftomation
5．＝Gross 15 ：large Rivers 16．＝Medalled Roods

6． M Marh
7．$=$ Rivers $\&$ lokes
17．：Borders

8．：Fores
9．＝Villoge／／Sburbs
$10 .=$ Iowns
$11 .=$ Chies
12 ：Un－medalled frocos
18．＝Winefiebs
19．$=$ Objeftines 20．＝Troskan 21．$=$ SekatMop hlems／Mop zoom 22．$=$ Sound 23．$=$ Edit forces


## You＇re in the Army now，you＇re not

 behind a plough，you＇ll never get rich from digging a difch，you＇re in the Army now．Oh，and you can be in the Navy and Air Force too．age we can now involve ourselves in both the action and strategy of warfore from any given period of history．As computers have become more advanced and graphically copoble，so the closer to reolity they have become．
So，following on from the successtul Campaign 1939－1945，comes the release of Compaign 2. The most immediate change，which one notices immediately，is the foct that Campoign 2 covers all the moin conflicts of the last 50 years．
This is a vost improvement on the originol sce－ narios，as now you can play general in Vietnam

you have the opportunity to edit the map．
Here you can alter any aspect of the terroin and odd or subtract other landmarks such as roads and buildings．Once all the alterations hove been completed，battle can commence．
Due to such things as terrain，location and avoilability of forces，Compoign relies heavily on strategy．Indeed，one slight miscalculation on your part could mean the difference between


onnihilation，success or even missing the show allogether．
Once the rival factions meet you are asked if you want to play the battle outomaticolly or－man－ vollett you select to battle using manual confiet then you con dic through your forces unfil yau ore riding in one of your vehices．
Control tan be as total or as partial as yau wish，with the object being to locale potentiol tof－ gets and destroy them．Once a friendly vehice has been destroyed then play is switched to the next one available．
However，poor deployment could mean you are either stranded miles from any friendly units or right in the thick of enemy firepower．
Compaign 2 also includes on extensive dato－ base of military hardware and equipment，all of which is at your fingertips．This information can be used to your direct advantoge when involved in conflicts，especially when engaging opposition who control superior forces．
Compaign 2 is a foirty well balonced mixture


Clicking on to this screen gives you statistics from the database regarding the relevant vehicte
of 3D arcade style shooting blended with a strong strategy approach．While 1 enjoyed the battle simulations and enjoyed controlling the various tanks，I can see strategy purists being put off by the arcade elements．
However，if you＇re a fairly well balanced human being I envisage that there＇ll be more than enough of both interest and of visual stimu－ lation to keep you occupied．

SIMON CLAYS

VISION GGGGGGQ

AUDIO GGGGGGGOOO

DIFFICULTY GのGG＠GのGOO

LASTABILITY


A realistic blend of both action and strotegy，allhough by the noture of the arcode action Compaign 2 can＇t be seen as a simulation．


## Arabian Nights • Buzz • $£ 14.99$

Following onftrom the success of Soccer Kid, Arobion Nights if an oction pocked platform odventure. Yes, it's hat arother cateyy po focmer and thove to hold up my honds and soy flat its quite geod - but more
abour mot in a m mute
You ploy the pat of chid gord
er's heper who is hoving trouble
geting on with his work bacouse hering on weing distrocted by the beautful pincess leilo. Just of evil demon tokes affoncy to the princess and cophures her.
You somehow get locked up in the polace dungeon, so not only do you hove to rescue the fair princess you also hove to escope to prove your innocence What ail this boils down to is ? form, puzzle-pocked

## Overall:

## 85\%

5

odventure of epic proportions.
The hero of Arraion Nights must fight ogainst severol dangers throughout the odventure including
beefy guards, rabid bird attocks, spikes and acid baths.

To stop the game becoming tedious, Krisolis hove imple mented a huge puzzle ele ment into the oction. This sometimes involves bring ing items to people, col lecting money or troding

This puzzle foctor does moke Arobian Nights that lifile bit more satisfyathan some of its comPebian Bu this CD version of Krisolis' platiformer isn't
that much different from the
grophics tive been enhunced anc you can choose between ifree difterent levels of detoil, but I couldn't really tell the difference between the choices. The sound is improved thanks to the CD technology and some of the Arobion tunes ont

If you're a new CD32 owner and hoven't got a decent plafformer then I would recommend Arabion Nights to you as a must-buy, but it doesn't show off the CD32's

## John Barnes European Football • Buzz • £14.99

## quite catchy.

 obilities to the full.

## Alfred Chicken Mindscape • $\mathbf{\$ 2 5 . 9 9}$



## Overall:

 90\% Affle chicken cind core whing lands to plak you fhind
from the clociches of the Meka-Chickens.

## Cluck your way

siond (erri) lavels focing

## evil and treachereus

beostics such os Byron
the Snoil hmm, moybe
not thot evi then, Mog:
Terrosewus ido not and th

## Beat the Mek

snatch the erea bock and aco
home and unaf's obout it Alfred
chichen of bizarre linte game from
Mhlcape which contains a good mixture between puzzle and plathorm oction
The graphics are big, bright and quirky and the soundrock is a delight to the ears. The gameploy is just about right oppeofing to kids and odults alike.
Shell out o few quid for Mindscape's cluck'em-up - it's finger litin' good.

## Overall:

it ficis on commodore's soll gome the show is face on Conmodore's CDO32, the first oeng sensibe socrer, John bornes looks, All ithe fectures you d oxpect to see in
from his odoring fans).
The celebrations ore really a sight behold becouse in John Bornes' the sconi of gools is extremely reed fic - but this unfort a gome of this sype ore in there. Changeable weather condiand even the option to tum the ployer celefrocions off are vist a smoll hondful of examples. The grophics are completely amozing and undoubtecly the best ever seen in on orcode football gome.
You must do boitle with the cream of Europecon tolent from eight notions to b the Chompions of $E$ ing the occlaimed pecon Nations Cup,
there or fuily onimated substitutions [where the ployers strip off their trocksuits] and ployer celebrations where the scorer gees completely bonkets and runs around the side of the pitch receiving odulation
you colen frusiroted. fons will perseve short-tempers should steer well dear
John Barnes' contains some amoz graphics and a thumping CD soundirack,


## Kings Quest 1 <br> Kixx XL - £ 14.99

Being foirly young in gaming yeers, to me Kings Quest 1 seems very bosic especially by today's standards. But I'm sure there are those of you out there who remember the good ol' days of RPGs, having to type in the commands for your hero, spending hours trying to find another word for "walk" because your computer is hoving one of his pedantic days and waiting an eternity for each screen to load when your character

Well, I bet some of the more nostalgic among you are now saying "hey, I remember those old classics" - and Kings Quest 1 is difinitely one of them.
Whether this is a good thing or not remains to be seen. I mean how many Mylh/Knight-ype adventures do you really need? And when there are many other more spectacular examples of this genre damouring for a ploce in your games collec-

OK, so maybe you might foncy this blast from the post, so what do you get for your
Well, certoinly not an original story line, that's for sure. The King of Deventry is on his last legs, and you, as his fovourite Knight Sir Grahom, need to retrieve three missing treasures to restore Doventry to is former glory and be rewarded with the crown.
For your money you get some reasonoble grophics, and some nice effects such as birds tweeting in the background, monsters splashing in the moot and waterfolls.
Controlling the game is relatively easy Igetting your choracter to wolk is a little stronge though). Type in whatever instruction you wish your character to carry out and the computer will either let you do this or suggest that you try something else.
And yes, we've all done it, boredom is looming so you try a few silly commands to liven things up (OK, so you don't, I'm just a little strange like that) but in this game you actually get a response. For instance, I tried eating the butterfly and was met with some remark about them not tasting very nice. Hmmml Computer games making wise cracks I can do

If you're a real RPG fan then it's worth a look. The game isn't too bod, but of the moment there are far more original and impressive odventure games around, and it can't compete


Mad as a March hare, but in typical Cheap Seats fashion we couldn't afford one so here's our Mad as a March rabbit budget round-up from Tina
moves from one area to another. fion, is $£ 14.99$ perhaps a little steep? £14.99? without. with today's high slondards.


## Cruise for a Corpse <br> Kixx XL • £ 14.99

If you've alwoys wanted to try your hand at being Miss Marple, Poirot, Clueso and the like then now is your chance. Personally, Ive never had these warped fetishes but there's no accounting for taste and if this is your bag then Cruise for a Corpse is a must.
Right, setting-the-scene time: As Inspector Rooul Dusentier, you hove been invited on a luxurious cruise, when all of a sudden your host drops dead. Coincidence, hey?
It olwoys did seem a bir dodgy in these TV crime things that Miss Marple and compony alwoys "iust so happened" to be on the scene of these terible murders, especially when most normal people go through a whole lifetime never even witmessing the slightest criminol activity.
So, in true Agatha Christie style, you need to gather as much evidence as possible and question other characters, piecing together the events and deciding who could have possibly committed this terible crime.
By using a simple point ' $n$ ' click system you need to interact with your environment, establishing links with the evidence you find in many of the different areas of the ship.
Each object found can be highlighted and will activate a list of possible actions, for example, you find a cupboard and can "search, examine or open drawer".
Travel around the many rooms by using the map or by guiding your character to go in the direction you wish.
So, that's basically the game. And good it is too! The superb grophics involved plus the wonderful animated story sequence at the beginning make the game visually stunning.

There have been some nice touches of humour added and the animation of the characters work well, especially when you get the chance to question them.

Sound effects are perhaps a little sparse in places but when they are used they create the otmosphere effectively.
The gameplay does, however, become extremely frustrating affer a while and your going to need plenty of potience to get anywhere.
Another unnecessarily annoying feature is that actual time progresses through the game, but it seems that it only moves on whenever you pick up another due.

Therefore different events happen through the game. Say, for instance, the Dining Room is inaccessible earlier on in the game but later on inferesting clues can be picked up. A good idea - but very frustrating!

All in all, though, it's an unusual and enjoyable game. And it is hard disk installable! Bliss...


RIII

## It's been re-released on budget, so here are some hints and tips for Ocean's brilliant plafformer courtesy of Robert Armstrong...



Comez entres the house and gets ready to find the rest of his family

## The Graveyard

Go left and climb up the hangman's noose. Get the fez and fly up to the top left of the screen. Collect the invincibility pill and land on the right chimney.

Go down the chimney and go down to the bottom left of the screen. Walk left and you'll
enter a new room. You will come to a very high wall. To get over it you must jump onto the small wall beside it and go one pixel to the edge.
Wolk through the next "wall" and jump up and to the left. To get the invincibility pill, walk through the woll to the right of ti. Keep on going and you will come to a room with three extra lives.
Now jump up the chimney. Pull down on the

| 00000120 |  |  |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Using Gomez's fantastic flying fer you will be
able to reach new heighs!

Lurch tinkles the ivories as the Thing waves along in time to the music

again, only there's a lot more baddies. Moke sure to avoid the nasty looking treel Go into the house.

Go into the bottom left room. Climb the tree. To kill the bird you must jump on his head six times. To do this, hide at the end of a branch where you are safe. When the bird passes beneath you jump on her quickly and go back to where you were. Once the bird is deod leave the room.

## Wednesday

First of all the "walking helmets" can't be killed
without you losing a heart, so avoid them Shorily before you meet the first three spiden you should see a running shoe. Go right ond walk through the wall to find a bonus room. Just beyond the spiders is a swith. To get tr it jump onto the ledge beside the spikes, jum? onto a flying nasty and then jump again to read the switch. By the woy, this tocicic is very imper tont; the game cannot be finished without it.

To complete the new room you must use tr ramps effectively. Walk up these to increase your jumping power. You will come to a poir where around a dozen flying nosties are flying over some spikes. Jump on them and when thy?


Comez comes face to face with flying bug type thing in the conservatory

00005 180
anall dead you them.
When this sub level is complete you will Wer a new room. Fall down onto the spike waest you and it becomes a block. Go left and ana will find an extra life and points. Jump up wid right for another power up and more
This level is full of spikes, so remember when Wre's a spike obove and below you, a short 10p is most effective. When this sub level is mpleted you will enter a graveyord. Watch ar for the pumplkins, they drop fire on you.
Enter the little building at the end. Wadnesday is in here. Bear in mind the tactic I antioned earlier on this level! You often have Quse the bubbles the fish fire as lounch pods.
There is only one very hard part to this level Th consists of a number of small ledges. You ast stand at the very edge of each ledge and we large jumps to succeed. II's very frustrating a arraidi To dodge the stor-shoped guillotines cu. must pass under them when they are up.
To kill the end of level boss, dodge the skulls wase the two bricks os lounch pods for your - mps. Jump when the skulls leove the screen. there is also a bonus room under where Wednesday is standing.

## Cranny

Eacany is in port of the top right room. When wa enter the room go left. The switch is of the wry top of the level. There are two bonus eoms, one is in the top right corner and other in the top left one. Pull down on the top of the wisn to enter.
There are bonuses to the right of the information box, any of the swithes in this room let Fou get to them. To avoid the nozzles which Cool fire you must jump just after they fire.
The bouncing fireballs can be avoided by wiping when they are at their lowest point. To sadge the hopping fireballs duck under them when they are of their highest point.
The flying stars travel in circles. Walk past Wem just as they pass you. There are also slow roving stars and they can be dodged by walkag post when they are at their furthest point rom you.
Speed is important in this level, many of the rowing bricks poss through lava, so you must inp on them before this happens. Always go

Killing this bothersome egg-laying bird will reap major rewards
as close to a platform's edge as possible to moximise your jump.
When you reach granny go to the for righthand corner of the room. The boss posses by you three times. The first time, he con be hit, but on the other occasions he turns his spikes towards you.

You can duck most of the fireballs, but sometimes he fires a low shot which you must jump over. When he is dead you will appear on top of the oven. Walk past the level entrance and go into the deep freeze.

You must kill as many penguins as possible because otherwise they will follow you. You must use the tactic I mentioned earlier to get past some of the higher walls. The snowman at the end of the level can only be hit when he's in snowman form.

He's invincible when he becomes a snowball. Watch for the icicles; if you stand between them you will not get hurt. If you kill the snowman then you are awarded four hearts per life.

## Pugsley

Pugsley is in the top room. There ore three types of very hormful nosty on this level. The boll and choins can be dodged by jumping post when they are of the furthest point owoy from you. The nosty who fires the disk can be killed by jumping ot him when the disk hos post you.

Once he is dead the disk disappears. Finally the choins of disks can be dodged by wolking post when the choin hos just post you. Some of these chains also appear in the Granny level.

You must also use the cannon bolls as lounch pods for jumps, os in the other levels. To kill the boss you must jump on the top of his heod when the discs leove the screen. Be quick though, they reappeor very quickly. Duck in a comer the rest of the time, so you can't be hit.

## Uncle Fester

Go into the top left room. Uncle Fester is here,

A bit of extra money lures our hero, but will he escape that deadly spiked ball?
but the level is quite long. The jumping nosties are easy to kill - just jump on them when they are of their lowest point

In the case of the flying ones, kill them when they are a standard jump's distance away. The same goes for the unicycle baddies in the mojority of cases, os well as for the green men, the Knights, who ore unarmed, and for the men on green ducks with lances.

There are also knights in this level who throw swords. Jump on them when they turn their backs to you. The suits of armour can be dodged by walking past when the mace just passes you.

If a jump is required, then use a low-pow ered one, and wait until the mace is hallway through its swing. Later on you will come across Book Worms. Use the unicycle tactic on them.

The poperweights are best avoided, but if you must kill them use the unicycle tactic ogain, only this time be quick, becouse the weights move very fost. There are also springpowered baddies, who follow you tike the penguins.

Jump at them when they ore at the lowest point of their hop. You will come to a room with a train in it. The track will kill you, as will the sharp cogs. To avoid them look of their positioning, you can either jump over them, or duck under them.
If you are going to jump over them then stand on the funnel of the engine. If you wont to duck, then stand on the lowest point of the train, and duck.

The witch is very hard to kill, you must jump on her when she's at the lowest point of her swoop. You also have to use Fester as a jumping point by standing on his head. When she's dead, exit the level.

## Morticia

Go into the middle room and wait for the music to stop. The wall at the right side of the room drops and you can go in the door. In the third maze room go left until you reach a door.

This leads to a money pit and two new doors. The left door leads to a bonus room and the right door leads to a new level. All the nosties here use a movement pattern that some other sprite uses elsewhere in the game.

## Addams Family finder

1. The room to the bottom right
(Conservatory) contains Wednesday.
2. The room above this (Kitchen)
contains Gronny
3. The top room (Games room) contains Pugsiley.
4. The room to the top left Portrait Gallery) contoins fester.
5. Morticia is in the middle room
(Music Room). Don't forget you have to sove the others first.

The bird uses the pattern of the green flying eye in the snowman level. The green blob moves the same as the bouncing flame in the oven. The rolling rock moves the same as the snowballs in the deep freeze.

There are skulls and ball and chains too. There ore also fish which con be killed by swimming over them and touching your feet on them. Be warned though becouse you move slowly in the water. There are flyig mouse like foces as well, who move the some as the flying nasties in the garden level.

To kill the end of level boss you must dodge the hammers. Stand on the right most part of the low right ledge when you want to hide. To begin with he jumps to the right. To attock him jump onto the top of the pedestal and jump down on him.

After your first attock, he hops once on the top of the pedestal and then jumps to the left. from now on however he hops once on the pedestal, then down onto the ground in the middle and then to the right. He hops once more on the top of the pedestal, then on the middle ground and then to the left. When he's deod you've won! Enjoy the end sequence!

## Addams Family codes

1. Pugstey $=$ V1 193
2. Granny $=$ V \& zix
3. Wednesday = VD916
4. Fester = VL9KD
5. 3 hearts per life $=\& 1 \#$ IF
6. 4 hearts per life $=$ ?1\#KM.


|  |  |  |  |
| :--- | :--- | :--- | :--- |



OVGRDRIVE 35
These external hard drives come in on ABS box stuled to match the Amiga A1200. They plug in via the PCMCIA slot and include on external PSU so as not invalidate your Commodore warranty. Ultra fost isfer rates of up to $2 \mathrm{Mb} / \mathrm{sec}$. Full 1 year warty. all the software needed to mount and figure the drive is included.

```
CMb version - £299
CMb version - £349
CMb version - £399
340Mb version- £449
426Mb version- £549
540Mb version- £099
```


## [200 UPGRADES

## 12 SCSI/RAM BOARD

aboard is user fittable via the trapdoor sonsion slot of the A1200. It has slots for up to b of 32bit RAM, a maths co-pro and includes a Si interface as standard.

```
b/ NO FPU
\(£ 179.00\)
DRAM 33 MHz FPU
\(€ 349.00\)
E. CABLE KIT
£ 59.00
```


## P 1230 BOARD

ther quality tropdoor expansion for the
200 . It features a 68030 processor as standard dhas slots for a moths co-pro and up to 8 Mb 32bit RAM.
$\begin{array}{ll}\text { b/ NO FPU } & £ 269.00 \\ \text { RAM } / 40 \mathrm{MHz} \mathrm{FPU} & £ 439.00\end{array}$

## BRAM BORRD

\$budget expansion board fits via the trapdoor. wos $2 \times 32$ bit SIMM sockets for up to 8 Mb of enory, a 16 MHz 68881 FPU , and a battery thed clock fitted as standard.
3 with OMb RAM/68881
£ 99.00
$£ 129.00$
3 with 1Mb RAM/68881
f.929.00

## IDE INTERNAL HARD DAIVE KITS

These kits come complete with screws, instructions and all the software necessary to prep and configure the drive.

```
\(40 \mathrm{Mb}-£ 139 \quad 60 \mathrm{Mb}-£ 119 \quad 80 \mathrm{Mb}-£ 179\)
\(120 \mathrm{Mb}-£ 279 \quad 209 \mathrm{Mb}-£ 399\)
```


## A4000 UPGRADGS

PHOTON (fOR R4000/030)
This board wil transform an Amiga A4000/030 into a fullu fledged 040. It features a 040 CPU module with a MMU and a built-in FPU running at 25 MHz .
PHOTON UPGRADE $£ 699$

## HeLIfIBE (FOR A4000/030)

This is a replacement CPU board for the A 4000/030. It features a 50 MHz clock speed, a built in MMU and a 50 MHz 68882 fPU. Your 030 will only be $10 \%$ slower than an 040 during most operations.
HELLFIRE UPGRADE $£ 299$

## DKB 128

The DKB 128 is a 0 wait state memory expansion board for the A4000 series. It has slots for up to 128 Mb of 32 bit RAM using SIMMS of any size. It is a true ZORRO 3 cord which makes for a very fast board.
DKB BOARD (BLANK) $£ 269$ (See chips for memory)
HARD DRIVES ( 1200 \& A4000)
These Hard Drives can be fitted at any time bu us (FOR THE A1200) or the end-user. All the necessory software is included.

| $85 \mathrm{Mb}-£ 129.00$ | $330 \mathrm{Mb}-£ 299.00$ |
| :--- | :--- |
| $130 \mathrm{Mb}-£ 149.00$ | $426 \mathrm{Mb}-£ 369.00$ |
| $200 \mathrm{Mb}-£ 199.00$ | $540 \mathrm{Mb}-£ 399.00$ |
| $250 \mathrm{Mb}-£ 249.00$ |  |
| FITTING FEG FOR A1200 | $£ 29.00$ |

## cHips

| 1 Mb SIMM | $£ 39.00$ |
| :--- | ---: |
| 4 Mb SIMM | $£ 134.00$ |
| 25 MHz 68882 FPU | $£ 89.00$ |
| $33 \mathrm{MHz} 68882 \mathrm{FPU}+$ CRYSTAL | $£ 99.00$ |
| $40 \mathrm{MHz} 68882 \mathrm{FPU}+$ CRYSTAL | $£ 129.00$ |

## CD32 CONSOLG

This mochine represents the future in home entertainment and video game play. A self-contained CD console which you can expand into a full CD bosed home computer. CD32 comes complete with two stunning AGA games.

## ALL FOR JUST 5279

## We offer a full fitting, installation and advice service to anybody interested in upgrading or adding a Hard Drive to AIV system.

A full range of Amiga products are available from our mail order service at:-

## SOFTWARE

 DEMON Ltd. (0736) 331039> Expert views on the latest applications

Iast time we looked at various ways of using Intuition, the Amiga's Graphic User Interface, from within ARexx. In particular we looked at RexxARPLib.library v3.0, as an excellent example of a utility that brings the machine's graphic system within reach of the user, with a minimum of fuss.
To recap: Intuition's graphics facilities cannot be accessed directly from ARexx, so instead we launch a semi-independent ARexx unit (a host) which can access these features.
This unit takes care of all the drudge work involved in opening windows, handling mouse-clicks, requesters, menus and so on. Our ARexx program then uses special commands that act on the host, in order to produce the desired results.
These commands are quite similar to their corresponding Intuition functions, so programming with a graphic library like RexxARPLiblibrary is not too different from "real" system programming. It is however much easier, since most of the "overhead" of details is taken care of by the host.
In fact, all the programming that we do when we handle Intuition in this way is pure ARexx. There is no "real" system programming involved. The RexxARPLIb host adds an extra ARexx layer between us and the system.
This is in contrast to some libraries which allow you to make direct system calls, and are hence a little more dangerous to use. The trade-off is a small loss of flexibility and speed which should not bother most users.
Before we leave this subject I would like to dwell on a few things which may puzzle a newcomer. 1 assume that most of you reading this far have either already obtained a copy of RexxARPLib, or are planning to do so.

In any case it is a very worthwhile piece of software, and should be in the libs: drawer of all ARexx users. It should be obtainable from most PD libraries.

If you already own a book on ARexx, and you got a free disk with it, the chances are you already have it. Make sure it is $v 3.0$, since it has more features, and earlier versions gave problems with Workbench 2.x.

I will use the "graph.rexx" example supplied as part of the distribution to illustrate. This example is good because it shows what can be done in a relatively small ARexx program, and also has lots of room for improvement.

First a comment about the line that goes "ADDRESS COMMAND runwsh..." in line 79. As you can probably guess "runwsh" is an external command, and you will not have it unless you are using Bill Hawes replacement
for the Amiga Shell, wShell. WShell is not widely used in try UK, even though it is a very good program; on the other hasi it is extremely popular in the USA. Bill Hawes, of course the author of ARexx.

This command is used for launching the host asyncter nously, and as you will have seen from last week's code can be replaced by the following line, which does the job.

## ADDRESS COMEAND run $+x^{\prime} 22^{\prime} \times \|$ || CALL

GreateHost('GRAPHHOST','GRRPHPORT')** || 122 'x
It is essential to make this replacement if you want the pros gram to work. In fact, if you ever have American ARexx sabe ware that appears not to work, it is always a good idea check that "runwsh" is not being used.
I have been caught out by this a number of times. Nose that in the above example, the code for the double quotatis marks ( 22 ' $x$ ) is specifically included. This preserves the quer tation marks when the line is passed to AmigaDOS, and thr actual command line that is used reads:
run if "CALL Createhost('GRAPMHOST', 'GRAPMPORT')"
You may already know that the last (closing) double quate Easier
mark is optional. You can also replace lines $80-85$ (whict wait for the port to appear before proceeding) with the mors elegant:

## ADDRESS COMAND 'Waitforport GrRphnost

but this is by no means essential. Then, to run the graphim program simply make sure that the "graph.rexx" file is in the directory you have assigned as REXX: or simply in your cur rent directory or path, and type a command like the one below at the Shell:

## Ix "CALL Graph('Mane $\left., 100,-5,5,{ }^{\prime} \sin \left(x^{*}+\right)^{\prime}\right)^{\prime}$

Newer users will notice that since our graphing progran has the suffix "rexx it can be called as a macro from withit another program (in other words, just as if it was an ARext
 function itself).

The next thing to notice (line 90), is the two IDCMP flags which have been set This means that the window will notify our program if we try to either resize it of close it. The code between lines $273-30$ (especially between lines 273-287), shows how we process the loops which wait for ARexx messages.

The functions used are found in the "rexxsupport.library". This general technique of waiting at a port for a messagt should be totally familiar to anyone wantip ng to do serious Amiga programming. We have discussed it at length a number times already, and nearly all books o Amiga programming describe it.
If you are programming in C of Assembler, there are several other details to attend to as well, but the ARexx versine
ats the formula to be plotted is entered as a string of characters thin quotes. Then the program relies on ARexx's powerful IERPRET instruction (line 59) to work out the individual point ies.
This means that any function you use in your formula, must le defined in ARexx. Therefore, if you want to use trigonometric logarithmic functions, you should make sure that you have a pecial maths library (e.g., RexxMathLib.library) installed. Since is library is usually distributed together with RexxARPLib, and by the same author, this should be no problem.
There are two other minor problems with this program and it instructive to look at them. They are illustrated in the accomunying diagram.
Firstly, if the window is made fairly small, then the graph raws over the top bar of the window. This problem is not due the system, but merely to the simplistic algorithm used for the prids.
This is not too serious in a simple demo program like this; it suld have been cured by setting the GIMMEZEROZERO flag, but is flag is not implemented in the library (if it was, it would have cen specified in line 91 along with the other flags).
Without it the window draws in all of its area, including the top ur. As it is, the problem must be compensated from within the
program (lines 127-181). Secondly, if the window is sized down to its minimum possible size, the program crashes due to a division by zero.

On Workbench $2.0+$ machines this problem is more marked, because the system "zoom" gadget automatically sends the window down to this tiny size. This could be fixed by specifying a minimum size for the graph window, but unfortunately our library has no direct way of doing this.

These problems are the tradeoffs for using a user-friendly library like RexxARPLib. If you were using more "direct" libraries, like APIG or RxGen instead, both of the above problems could be easily corrected, but it may be easier to make other mistakes, especially if you are new to this. You pays your money and you takes your chances..


# graphics still 

## Creating independent executable utilities

I hope that the main article has shown how easy it can be to implement an Intuition interface to your ARexx scripts. For a relatively small investment in time your work can took really protessional:
If you are creating utifities that get used by other people too, especially people less famillar with computers, you can help them avoid the Clt and use a frlendiler mouse and requester interface.
In fact, for those special ititle hacks that uist need to get done. rather than requiring altention to speed or compactness, ARexx may be better than the so-called prolessional languages, since it allows interacive experimentation during the design process.

This is the reason why ARcxz became popular among developers in the first place, even betore it was embraced and bundled by Commodore.

It you write tittle programs the this, it might niggle you that they still have to be launched from the Shell, especially if you are trying to stick to a Workbench environment-There are
a number of things you can do to package your scripts in a more Workbenchtriendly environment.
You can write a one-line Amigados script that launches the program, and attach it to an icon using the IconX utility (refer to your AmigaDOS documentation). Remember that If you are trying to lose the Shell you will also lose the ability to launch a program with parameters, and the program will have to receive all parameters while it is ruming.
If you do not ike the inconvenience of having three separate files (the DOS script, the ARexx script and the icon file) you could use the exceltent PD program, lcond, which does the same job as iconX, but much better, and also lets you link the script and the icon into only one file!
Icon $X$ and icons still use a CLI window for output, but you can disable this by specifying the NIL: device instead of a particular window in the tool types.
Of course, you should only do this If your program has absolutely no text output, such as that due to the

SAY instruction. Should you decide to use NIL: for your output - unless you have taken special steps - error messages will be lost too.
If you are using a 100 per cent Intuition environment, you must make sure everything (fincluding errors) get handled by Intuition. For a beginner it is probably much better to have the CLI window present too, just as a Satety backup
Another possible avenue is the use of the freely distributable program ExecRexz: (As you can see there is no shortage of helpful PD ARexx programs.) This utility will package your utility into a fully executable file, just Tike a commercial application. This also provides a way to hide your code should you be so selfish. Of course the ARexx installation must still be present for your program to run.

Finally, serious programmers, who wish to produce commercial or company in-house material using ARexx but want a little extra edge on speed. should consider the heavyweight RexxPlus ARexx compiler from the Dineen Edwards group in the USA:
In the second part of his ARexx graphics series,
Alex Gian shows graphics series,
Alex Gian shows how sometimes ARexx can actually be better than low-level languages

| 30 Cosuhution Kl2 23 | Cantiat |  |  |  |  | SPECIAL OFFEE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ATran | Combat Clasies |  | Lepunds al Vulue |  | Strp Poker 2 ＋Dets Oisk $\qquad$ | taban Kngis |
| A320 Acposan Traner．．．．． 1939 | Contar Classics $2 \ldots \ldots$ | Flighe Simulinor 2．$\quad 24.98$ | Lemmings 2 Te Tribes．．－．．．．．．．． 17.50 | Cuastlor Glory $\qquad$ 2699 |  |  |
| 2320 Nitua Eurpee ．－． 2299 | Conrations＇－ 1399 |  | Larnings Doisie Paik $\quad 19$ ge | Onslun 398 | Spper hes ${ }^{-1} 1939$ |  |
| 4230 Airtus（USN）－－． 2293 | Cosispor $\quad 1989$ | Fylerior cose 1298 | Uns－Buthl Covme Dix－ 1290 | Owsotion Breed Specas Easion Cose 1793 | Spertasjue Merager | Cas3－－－－－－ |
| Rowdons Pases 2 ．．i． 2298 | Cowy |  | Unks－the Coullenge of Coll－．$\quad 12.129$ |  | Spatoy－ 1780 |  |
| A，Buks 12.1129 | Cat | Famial One Grand Pas $\quad . \quad 2298$ | Lisnveet ．＿－coin 1459 | Falsad Tyocon－－．isse Lurn ol Powerf | Sutinion－A500 or A1200 1789 |  |
| Le Buch $12 \times 1200229$ | Cluse tor Copse $\quad 1290$ | Q2 $\quad 179$ | Usidul Cous 1995 | Reviow sland | Sutheije－C002 1939 | KaO 212 Mm |
| Lefoce Corntender－1399 | Ober Purk－－ 1790 | Gonesis－Co32 1998 | Uuing Prtal | Peaction te Sies－ 1898 | Syadciele＿．$\quad 229$ | Kalor 2Frel Whate ．．．．．．．．． |
| Hos | Obaspase＊$\quad 2230$ | Obtal Deninition－ 2498 | Loots of Power－． 2280 | Feach aut or Gold．$\quad$ N000 © A1230 IT．99 | Smasalo Dan 0 |  |
| thes－Cose 1199 | Dagyeus Srees NS00 or Al200 17．90 | Globe Glasdicn－ 2.9 .9 | Latur Evan Tuse Culorye－ | Red Basen－［isee Lorts of Powey） |  |  |
| Nored Chider－ 1793 | OGeresito－C5a2 1780 | Getaso ．${ }^{19.99}$ | Lons Trilogy－－ | Henojase ．－$\quad 69$ |  |  |
|  | Dask Sua Slutered Lands＇－ 21.90 | Cosein $3 \ldots \ldots$ | Latss Tube Triogy－－Coaz 2298 | Renojuce $2^{\circ}-150.1899$ |  |  |
|  | Oasiree $\quad 2039$ | Goal－ | Mege Bor－${ }^{\text {＋}}$ |  | The kista－－－ 6 － 69 | Stebse Worth－in |
| Aiten lroed 2－al201393 | Osepcese ${ }^{\text {a }}$ | Gruhan Gooct 2nd lmisys． 1199 | Megcaris Cante－${ }^{\text {a }}$ | Rebs Hose | The Lost Vings－${ }^{\text {a }}$－ 2099 |  |
|  | Doepcosm Cose 18.8 | Gratan Ooocel Wonld Clsss Crickert．－．13．38 | Moncerse Untad Evose＿ 899 |  | The Patcas $\quad 2490$ |  |
| Nen Bred Spouel Ettion．． 159 | Opare Maic Contrucion Sar 2.0 |  | Mar Uniad Pamer L woun Charsiers． 1990 | Rues d Enpagenert2－$\quad . \quad 12 \%$ | Thente of |  |
| Nien Broed Spociul Eston Co32 1293 | Deame Parlatat $\quad 6490$ |  | Masios lassry－ | Froder Cip－${ }^{\text {a }}$ | Tomaso． | EDUCATIONAL |
|  |  | Grand Sum C | Maws Buccon | Scurtio－ |  |  |
| Ateican Gadibls | Denris－．．．A1200 1ase | Gusome ${ }^{\text {－}}$ | Man Nerss | scarco． | Trose Tresuss 1999 |  |
|  |  | O4p－Cose 1393 |  | Second dMeney wiend $\quad 1009$ |  |  |
|  | Oegoes $\quad$ Al200 1999 | Ganstip 2000 （1 Megl |  | Secut of Morivey siand 2 I Hegk－isse | Trican 3 <br> A590 er CO12 1799 | gPares（6） 120 |
|  | Ospoustio Heo Oxry Cotedior |  | Morcosm－${ }^{\text {a }}$ | Seek 7 Dostor | Twiygho00 2009 |  |
|  |  | Menniber | Monopoy－${ }_{\text {Mopl }}$ |  |  |  |
|  |  | Keppos Sotieeel 2 Hepoon autheet 3er 4 | Moph－A1200c002 19.9 | Senabe Socor cose 19．00 | U56 ${ }^{\text {con }}$ | Farcon Obios（0－13 \％ |
|  | 009figh |  |  | Settions ．－．－－．a．－ 18.30 | uMS Complation－．．i．a．．．．an |  |
| $\qquad$ | Oaven． | terie Juny jert－ 220 | 4tatz 1799 |  |  |  |
| Bate lies $93 .$. | Oexelarce－ 1998 |  |  |  | Uncowered |  |
| Barsioads ． 1399 | Dsammb $\quad 2298$ | kisimer Bun－ 80 | Numen O PAC Caly－ 1998 | dProm | Urneral Mosties－ |  |
| Bestore［ ${ }^{1799}$ | Ove？ | Hend Gons．－－－－ 230 | New Zevard Sory－$\quad 899$ | Sin Ctrilemming $\quad 1900$ |  | AnsorTpst（5－16）100\％ |
|  | Opathaikn ${ }^{1998}$ |  |  | Smiclit Pepuibl |  | Wegclar |
| Bereath Sne Siy－${ }^{\text {cosen }}$ | Brumis． 1798 |  | Nody 2 － | $\sin 1 \mathrm{l}$ | Unpe $2 \times 199$ | Wats Dozore（ty |
| Benelech－${ }^{\text {a }}$ |  |  | Nopon Sider－ | Simon te Sorcro ．．．．．．．．．．．．．．．i2268 | Unpa 2 ．－． 003218 |  |
| Bach didesay－ |  | livecar |  | Simon fe Socero．．A12002999 | Weiten fiort－．．$\quad 2000$ | Wobersamis（25）1390 |
|  |  | tiaralional Coen Got cose 1959 | Overtive－ 16.9 | Sturets 1700 | Whies Vorega－A1200CD32 199 |  |
|  |  | Imbrusoni Open Cold Charpionstip．．isp | Ownd－A1200179 | Ston－ 12.0 | Wring Conmanser＿＿A 12302293 |  |
| Bocy liome（ Meyl－－ 18 年 | Ext Cos 1989 | trer $2 \times-1990$ | Owedil ．co32 9993 | Socter Kid．＿－${ }_{\text {a }}$ |  |  |
|  | Eyedi me Rubaber 1 － 1298 | liver $2 \times$ Al200 18：59 | pgat Jour Oel Tounamat Disk－$\quad$ S99 |  | Write Crmpas－ |  |
| Boby Biows Galastic．－．．．．．．．A1260 18．98 | Eyed the latobider 2 （1 Meg）$\quad 2199$ | MokNolus Coune Devigers Clp | PGA Tour Goll | Space legends Conplation $\quad 1200$ | Whar suferfons－．．．．ascoualicio 19 |  |
|  | Eyectite Siom＇－ 1399 | At Voume 1－ 196 | Pavo in 699 | Sports Mastras Complaton $\qquad$ | Xras Lemnigs 1299 |  |
| Buts Spotsfoothat－ 2859 | F1， 1798 |  | Pazsol Sian in in | Sur Thar A1200220 | Yober $\quad 179$ | Alobin Mood |
|  | FI7A Wphthomk Steathrighter．．．．．$\quad 2298$ | Heck the Roper－ | Pasot Genea－（bee lorit of Prweyl | Sarord ．．．． 229 | Zodi－．．．．－${ }^{\text {cos }} 18.35$ | The Treeseos｜s－10］ 1390 |
|  | F15 susum Enga 2 |  |  | Slarah＇$\quad 16.99$ | Zool 2 －－－．．．．．．．A1250 173 |  |
| Burne Raber－$\quad 1600$ |  |  |  | Siverigliar 2 1290 | Zod 2 $\ldots \ldots$ |  |
|  | F17 Chulurge－ | Jures Pond $2-\quad$ Alzoocose 1959 |  |  |  |  |
| Carpogn $2^{\circ}$ <br> Carnon Fodder $\qquad$ |  |  | ProalMay $\qquad$ 593 |  |  | JOYSTICKS／ACCESSORIES |
|  | F2g | Sch lermes Fontal $\quad$ COSR 1298 | Procy－3．＿1999 |  |  |  |
| Catoon Colecion－18\％ | FAPantie Lexge＇ | drasic Pax－．．i．．i． 17 年 | Prater Cod－Cose 1190 |  | （torid） |  |
| Carts $2 \times 19$ | Fadoon 3＊ 24.98 |  | Pspuios 5 Pronised Lanas $\quad 10.0 . \quad 109$ |  |  | \％ |
| Canes 2 ．al3002230 | Fanate Worts $\quad 2299$ | trusic Pas Coce 1989 | Pspulas 2＋－．．．．．．． |  |  |  |
|  | Fwillan－ 179 | K240－ 17 星 | Prwernerge 8 Osa Disk＿－ 129 | 20－1250 10．50 | 囫 |  |
| Charporatip Naragar 94 Seasm Disk． 750 | Ferar Grav Pix＊$\quad 1799$ | K24）（tan AB4）COC21799 | Pretisisce $2^{*} \quad 180$ | 30－1500 |  |  |
| Chasa Engie．－ 16.5 | Fiats Ciciory．．${ }^{2299}$ | Kngraver－$\quad 2390$ | Premier Mlanager $2 \times 1709$ |  |  | 1199 1790 |
| Chass Ergne－－．A12001130 | Fine Figu | Konge Oest VI．$\quad$ | Prime Move－ |  |  |  |
| Chass Engie．Cose 199 | Finfors COE 1799 | Kit Vicem－$\quad 179$ | Price of Pusa |  |  |  |
|  | Fise Samui＋Moplo Haria 19.98 | Krigts of te Sy－ | Protami Tour $2 \ldots$ | $\begin{array}{llll}1000 & 54000 & \$ 30.00 & 419\end{array}$ |  | Snoon Skikich |
|  | Reshtuck－． 20.90 | Krablys Siper Fin Hove．＿．＿1799 | Propet X．Cowe 1290 | acras es |  |  |
| Clum $\qquad$ 17.90 |  | Laser Squas Lozacy et Seasi | Propet X CDSE <br> Prophosy 12.99 <br>  19.90 |  | 17.30 | Whoo tister ． 4.89 |



The first few days of shooting are going well and apart from the occasional hiccup, you're on schedule for glorious victory. Never mind that the actors burst into hysterics during one of the film's more serious and melancholy moments or that despite constant coaching, the clapper boy keeps running in and marking the shot when the tape hasn't even rolled yet
Yes, there's nothing quite like retuming after a hard day's graft on the set and settling down into your favourite armchair and wondering when you're going to be rich and famous... to watch the rushes of the day's shoot.
Only a few glaring foreheads through lack of make-up glisten back up to you from the glowing screen and the odd moments of convulsive camera shake as the lens operator gets his or herself ready for the shot half-way through the take.
Indeed, at the rate yourre going, the local premiere promised to all friends and neighbours looks as if it could be a resounding success instead of a 20 -minute cringe and squirm in the discomfort of a town hall chair.
With the shot list decreasing rapidly every day, it's good to keep in mind some of the classic film mess ups that can be spotted in many movies and television programmes today.
The prime candidate is continuity. If you're planning to shoot a large scale production for your next project then it is advised that a continuity person is used to keep track of any mistakes that could happen - clothes suddenly changing from one shot to the next because in reality, there was a two-day gap between each of them and the actors forget exactly what they were wearing because they were too involved with the script.
The way to solve this logistical nightmare is an observant per-


Imagine a line drawn between two people. The camera, while shooting a conversation between the two, must not cross over that line when cutting between them...


It appears that they are talking to each other because one head is on the right of frame, the other on the left as you were standing there flicking between the two...


The line has been crossed and it now appears that they are talking from the same position and direction and perhaps to another person altogether because their heads are on the same side of the frame.

son with notepad, pen and a Polaroid camera with plenty of film. There's nothing more accurate for practical and easy reference than a picture of the actors, location and so on.

Another problem encountered is falling behind schedule - hassles often arise from nowhere that can be related to location and other factors. Sometimes, a shot takes longer than previously planned for, or on the day you just have a better idea for shooting a scene.

Solving this dilemma involves the PA juggling the remainder of the schedule, slicing off times from different shots and the director seeing if there are any shots that can be dropped. The process of video making is about adapting and shifting within a given situation.

There are many things to learn to avoid or to do on a shoot which are learnt by getting out there and experiencing it for yourself.
 Practice makes perfect.

## As time

## goes by...

## Tread carefully

As each shooting day passes, its usual human psychology for people to become tired and a little more edgy than usual. Mistakes can be made and accidents can happen through carelessness.

Your role as the director is to keep the crew and cast motivated through encouragement, organisation, keeping the pace of the shooting schedule as swift as possible and above all by letting people have fun with what they are doing.

There is little point of being a military dictator on set because it gnaws away at people's patience especially in an amateur group - until you're told where to go and put your opinion.

Apart from the mental, physical hazards must be kept to absolute minimum - a badly placed light could topple over and smash, eating unnecessarily into your already limited budget or in worst case scenarios, left by a particularly flammable object that doesn't take too kindly to being gently cooked for a few minutes. When on loca-
tion in someone else's premises, make sure that everybody treads carefully - vases and other breakables seem to beg for the accident prone elbow to shove them off the edge of the mantelpiece into oblivion.

If using Blu-Tac or other adhesive substances don't put it on wallpaper to be ripped off half an hour later with most of a Laura Ashley design attached to it.

Some of this may sound obvious but in the excitement of a shoot, there are times when even the professionals out there treat their locations as if they were in a dog kennel and not somebody's home.

When using large lengths of cable trailing across the floor where cast and crew are in risk of tripping up, use gaffer tape to adhere the wires to the floor (remember to take it off gently).

Above all, remember to remain commonsensical and don't take chances that could cause risk to either person or property.

## Techno Sonnd Twato 2 <br> ADVANCED SOUND SAMPLING SYSTEM

* DIRECT TO HARD DISK RECORDING
* BUILT IN TRACKER
* 18 FUNTIME EFFECTS
* PUL DOWN MENUS
* CONTROLLABLE EFFECTS
* SEQuencer
* STEREO DIGIISER
£39.99 RRP


18 REALTIME NOVEITY EFFECTS are available on the FUNTIME MENU including PINKY and PUNKY, SEX CHANGE, DEEP SEA DIVER, ALIEN, TOP GUN, CHOPPER, DARK VADER, BRUNO, AWFUL the DUCK, NIGHTMARE on OAK STREET Elc. All great fun to use with o microphone.
"The quality is outstandingly good"
FUTURE MUSIC
"For this price you can't really do much better'

AMIGA FORMAT

## "Now is the time to buy"

AUI

$\Pi 2$ is the complete sampling system for beginners and professionals alike - with NO HIDDEN EXTRAS
AUDIO LEADS are included with $\Pi 2$ (unlike most other samplers) to give you an instant start up capability
AFTER SALES SERVICE is also included FREE OF CHARGE - with no restrictions on phone calls

TT2 upgrade kit for existing TechnoSound users
£16

New Dimensions, Brooklands House, Bryngwyn, Raglan,Gwent NP5 2AA Cheques/PO's payable to New Dimensions. POSTAGE FREE Tel: 0291690933

# WMC <br>  

GAMES

## Mr Men Otympics (2)

Top Secret
E.aldy

E-Type
Hell Zone
Cybernetix
Giddy
othello
Gnu Chess
Gnu Ches
Starians
Starians
Game Tamer
Game Tamer
Road to Hell (2)
Road to Hell (2)
Star Trek 2 (3)

| Star Trek |
| :--- |
| Blizzard |

Dungeon Delver
Mission X
Amos Cricket
White Knight
Games Gaiore 10
Sub Attack
Neighbours Adventure (2) Dual
Legend of Lothian
Micro Market
Moose Drive
Black Dawn
Crazy 9ue 2
Extreme Violence
The Simpsons

ALL DISKS GUARANTEED VIRUS FREE
24 HOUR TURNAROUND TELEPHONE SUPPORT/ADVICE LINE

UTILITIES
Disk Master 2 Virus Cher 2 Virus Checker 6.05 Tools Demon D-Copy v3.1 Viewtek v. 02 Winblender Plasma Clouds 256 Action Replay IV Multi Fax v1.0 Multrax Fi. 1.0 Power Bench 1.0
Ham Lab Pro v2.08 Ham Lab Pro v2.08
Amiga Beginners Guide Amiga Beginn IBM Emulator Atari ST Emula
Pro Utilities 1 Pro Utilities 1
Free Copy 1.8 Free Copy 1.8
Lock Plck 2 Icons 2 A1200 Degrader D-Paint Tutoria Disk Salvage Garden Designer Printer Drivers Print Tools Octamed v2 Power Packers Typing Tutor Typing Tutor
Video Graphics Protracker $\times 3.1$ Protracker v3.
Animation Studio

EDUCATION Firework Alphabet Division Book of Spells Learn \& Play Algebra II Maths Wizard Story Land Kids Paint Colour the Alphabet counting fun Play $\delta$ Read (2) Kids Games Language Tutor GCSE Math 6th Form Animat Land Animat Sounds Read $\varepsilon$ Learn (2) Amiga World Education 1 Maths Adventure Treasure Search Back to School Back to School 2 Back to School 3 Singalong Rhymes Highway Code Highway C World Geogra Worla Geogra

These are only a small sample of our vast selection of PD titles. We stock the full range of fred fish. Scope and Assassins

Prices: 1.9 disks $=51.20$ each. $10-19$ disks $=51.00$ each. $20+$ disks $=90$ p each Postage: UK $=50$ p per order. Europe $=+10$ p/disk. World $=+20$ p/disk. Catalogue disk $=50 \mathrm{p}$ or free with 1st order

Cheques/POs payable to:
WMC. 5 Tai Arthur, Penisarwaen, Gwynedd LL55 3PN TeV/Fax: 0286871815


Alot of new Amiga owners will have joined us over the Christmas period and there'll doubtless be quite a few Midi users looking for help within these pages.
This being so, I thought I'd kick off by telling you about a little gadget that has proved to be immensely useful in my own Midi travels. It's called the MA36 Midi Analyser and is made by a company called StudioMaster (who are probably best known for their audio mixing desks).
The MA36 is a battery powered unit which measures about 7 x $12 \times 3 \mathrm{~cm}$, has an on/off switch and two Midi sockets (Midi-in and a (lidi-thru).
As your Midi data passes through the unit the MA36 identifies the ncoming messages and displays the appropriate real-time informaton using two sets of LED indicator lights situated on the front panel.
The indicators on the left-hand side of the display provide details $f$ the message types being received while those on the right let ou see what channels are being used.
Now Midi communications in general are relatively trouble-free, but occasionally the odd snag will arise and, particularly in the early days, it can be difficult to figure out exactly where things are going wrong.
You might inadvertently connect up some leads the wrong way round, or use a lead that is faulty (eg broken internally).
Your synth may not be sending the messages you think it is due the way it has been programmed or your sequencer may be
one side of your Midi interface is not working.

Experienced users will know however that it is far more likely that either the lead linking the Midi interface's Midi-out connector to the synthesizers Midi-in is faulty, or that the synth is set to a channel number which is different to the one the sequencer is transmitting its data on

In short, your first instinct should be to check the most obvious and likely things first (including making sure that the correct Midi sockets have been used and that all connectors have been properly pushed in).

The MA36 Midi Analyser costs $£ 32$ including p\&p. Details from StudioMaster on Tel: $0582-570370$. Trust me - if you have more than a passing interest in Midi then this little gadget is well worth checking out. I suspect that I'll be using mine for as long as I continue working with Midi -


## probably forever. <br> magic

## What's it got?

- Can identify Midi channel messages and common, real-time, and sysex Midi system messages.

Independent channel indicators provided for channel messages.

- Includes an error indicator that can signal the reception of badly formed, or poor quality, Midil messages.
- Provides active sensing and timing clock detection (useful because conventional sequencing software does not usually show whether these messages are in use or not).

StudioMaster's<br>Mas6 unit is a brilliant Midi fault-finding fool

## Paul Overaa takes a look at a reasonably priced piece of Midi diagnostic hardware that is guaranteed to help Amiga Midi users avoid unnecessary fault-finding grief

on

# Midi 

gnoring certain types of messages without you being aware of it. At times like this you want a quick way of seeing whether the expected Midi messages are being transmitted or received and the MA36 is an ideal tool for these types of operations. Best of all it is one of those delightful little boxes that you don't need to be a genius to use!
Supposing, for example, that you've got an Amiga sequencer program running with a Midi keyboard connected to it via a Midi interface.
As various tracks have been played you've manually switched to different synth voices during each recording believing that this should generate the required program change Midi messages which will then be stored in your sequences.
On playback the synthesizer doesn't change voices and on examining the sequences you find the program change events aren't present in the sequence data.
Is the program change data really being sent by the synth, or are the messages arriving but not being stored in the sequence: Just unplug the lead carrying the synthesizer's Midi messages to the Amiga, and plug in the MA36. Switch it on and manually change the synth's voice - you'll instantly see whether or not a program change message gets transmitted because the appropriate MA36 Midi channel number and program change lights will flash.
If the messages are being generated by the synth then it's obvious that your sequencer settings will need to be altered (perhaps the default behaviour is to filter out such program change messages).
If the messages aren't being transmitted in the first place then you'll know that it is the synth settings that have to be changed. Either way the MA36 can point you in the right direction instantaneously and needless to say that can save a lot of time and aggro because it takes the guesswork out of these types of fault-finding exercises.
As with most areas of fault finding, a bit of common sense goes a long way with Midi. If, for instance, your synthesizer seems to trigger the sequencer when recording, but on replay nothing seem to come back to the synth, then one outside possibility would be that

GREAT AMIGA OFFERS
The Premier Lithary of Wales - Now Established over 5 years - I000's satisfied customers worldwide

25 Maywood, Brynna, Pontyclun, CF7 9PZ 표 Order HOTLINE 0443238630 区
 1000's of programs Available - Free Catalogue - Great PC Library

## Amiga-64-Link

- Links C64 peripherals to Amiga parallel port - C64 Not required


## Connects C64 printers to the Amiga

- Supports MPS, DPS, VIC, Star, Brother, Seikosha \& Citizen printers - Graphics output on dot-matrix printers Works with all software


## Transfers C64 disk files to the Amiga

- File transfer programs - Read/Write text, binary \& program files Standard "Ami-64-Link £35.25 Prices include VAT and delivery Budget "Ami-64-Link" £23.50 Budget stops multi-tasking during_printing
5 York Electronic Research (0904) $610722=$
The Paddocks, Jockey Lane, Huntington, York YO3 9NE

| EXCLUSIVEPD <br> THE FRIENDLY PD SERVICE FOR ALL <br> AMIGA USERS - SOMETHING FOR EVERYONE |  |  | 7 Beresford Close, Wateriooville. Hampshire P07 5UY Tel: (0705) 642409 ce hours: 10am.7pm Mon-Fin, $10 \mathrm{am}-3 \mathrm{pm}$ Sat. |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | UTH |  | AGA SLIDESHOWS <br> 24 Bi. Peg Picturs <br>  <br>  <br> 较 Boyshos V(2) <br> Wert Sorce Simesis $1 / 23$ <br> GF 3raties f1-48 <br>  <br> Fanai Sidx <br> Wivist Bapord (3) <br> Wh. CaufaStiter <br> Whbors Valeo (2) <br> Whats 12 Ftraids ill (2) <br>  <br>  |
| All dide if pe dish <br>  Cheques payable to Exchusive po |  |  | bulletin service for its members to ensure you are aware of all new software as it is available. Phone for full details of the benefits of membership |  |
| IF WE HAVENT |  |  |  |  |



ITbe mail has been piling up over the last few montbs so I thought now would be a good time to bave a quick question and ansuer session. Firstly many thanks to all of your ubo send email and letters in response to the column.

Your comments are always read and noted, although not always replied to. I try to reply to all my correspondents on email if I can, but you know bow it is. Pressure of work, blab blab... Anyway, the first letter is from $H$ Bond of York, and be's into Radio Comms:

I would like to ask a question about Radio Comms. I have just changed from the BBC to an Amiga A 20002 Mb . Now I always buy Amiga Computing, but I haven't seen anything on Radio Comms. If it's possible could you give me some info on SSTV and FAX Transceive for the Amiga? Or is the Amiga just a games computer? I hope you can help but the York area is very bad for Amiga info."

Wake up and smell the coffee, buddy. The York area bad for Amiga info? Is it cut off by moats? Is it a space flight away from your nearest newsagent? I think not. Where have you been since 1985?
The Amiga is a leading comms computer, and I use mine for comms all the time. In spite of the fact you just insulted everyone reading this page, Ill cut you a break.
I just happen to have a disk full of radio comms software from the Internet, and just because I'm and old softie IIl send it to you. Now don't let me ever hear such nonsense talk again.

You might also seek out an old copy of The Radio Hackers Code

pulink.co.uk", and then you're in. Now you can do directories and $C D$ around the place as if the FUNET system was your own, except that being a huge Unix box there are up to 250 other people doing the same thing at the same time with very little slowup.

You use the GET command to pull files from FUNET and pass them to CIX, then you use SEND to send them from CIX to your Amiga. The whole process is very painless and useful.

If you want to go into an Aminet sit, they have all the latest files from Fred Fish, plus all the latest graphics demos, product information and support files, everything you could wish for. Miss Chew, the world of the Intemet is a big and scary place, but it is wonderful too!

- Finally for this month, LJ Sanders writes to plug his BBS:



## Treading

Book by George Sassoon (published by Duckworth). It's an old book, and probably out of print, but you might be able to get it from Waterstones Book Shop (branches everywhere) through their second hand Booksearch Service.

- P Chew of Somerset emailed me to ask:
"When you talk about FTP what does that mean, and how can I use it?"

FIP stands for File Transfer Protocol, and it's the way all the Unix machines on the Internet send files to each other. For example. using CIX you might log onto ftp.funet.fi, a very good Amiga FTP site in Finland.

This isn't an intemational call, as the lines which connect all the sites on the Internet are owned by the Information Providers and they carry the can.

All you're doing is talking to CIX like you normally would (it's very unusual to get something for nothing I think you'll agree). Once connected to FUNET you log on as "ftp" with a password of your Net email address, which in my case is "snoutyecix.com-

## Moving base

By the way, any fans of Guru-10 will tell you, one of the Amiga's most muscular BBSs is moving from its long held base in Scotland. From January 171994 the board will be moving to darkest Durham, and the new numbers will be:

## Guru-10 (24 hours, all speeds)

Node 1 091-378 9934
Node 2 091-378 9935
Here's wishing the sysop a pleasant and hassle-free move, and looking forward to more great stuff from this well liked bulletin board. Good news for Geordies, eh? The'll be smaller bills to dial th'Guru, ye'nah.
"The BBS I run is called Mostly Harmless, and it's a 100 per cent Amiga-only BBS. You won't find a single file for any other machine on it. The BBS is running on an $030 / 88233 \mathrm{MHz}$ based A 500 with 9 Mb of RAM and 22 Mb of on-line storage.
"The board uses a great piece of software called Xenolink. I have been running the board since January 1993 and have 224 users! The board is also part of three larger networks, Fidonet (2:251/41.0), Amiganet (39:134/14.0) and Pafownet (213:1020/7.0) importing over 125 messages from them all.
"The system is running on an US Robotics 16.8 K HST Dual Standard, which will be upgraded to 28.8 VFast when CITT announces it in 1994. I give all users a generous $10: 1$ download to upload ratio, and I am strongly against piracy and similar things.
"Bad language is not allowed, and files containing anarchist, hacking, commercial software or pornography are also not allowed. The number of Mostly Harmless is 0705614824 ."

Thanks for that. This is in answer to all the people who emailed me and said they were just getting into comms and did I know any good numbers. This is not a phrase guaranteed to make you popular on-line, and it marks you as an annoying neophyte.

Hunt around for numbers, but never ask outright as it just annoys regular users. There are plenty of lists of BBS on-line so look around in the file sections of any board. If there are any other sysops out there that wish to write in about their experiences of setting up their own BBS, I'd be interested to hear about it.

Anyone set up a BBS and packed it in for some reason? Or do you run a particularly successful one? Why do you think people like your board?

## Comms head Phil South <br> answers your comms questions

## Write stuff

Write to me Phil South, Comms Column, Amiga Computing, Europa House, Adilngton ParkMacclesfield, SK10 4NP. Or how about dropping me some emall on:

CIXsnoutyecix.compulink.co.uk Direct connection snouty@dircon.co.uk Compuserve toot02, 1500

## MICROLAND BULLETIN BOARD SYSTEM 0891990505 0483725905 To View

Amiga shareware including files from the Fred Fish Collection plus lots more to download at V32bis, V32, V22bis, V22, V23, \& HST etc. 8 data bits, no parity

## INTERNET CONNECTED

Microland is planning to get connected to the word's largest network towards the end of January. We wil be able to provide full global mail, news, software archive, and interactive services. Don't miss out to get connected and explore the world of Internet. See online bulletin for details
Why wait for your software when you can download now direct to your computer. Microland offers high speed connections and most files are compressed to minimise the cost. Check it out on 0483725905 at normal call charges. So much shareware you are spoilt for choice.
Calls to 0891990505 charged at 36 p per minute cheap rate, 48p per minute all other times. Trevan Designs Ltd. PO Box 13. Aldershot, Hants. GU12 6 YX.

## COMPUTER CONTROLLED ROBOTICS

 With he AMIGA INPUT/OUTPUT PORT 227.95AMAZING SENSOR \& CONTROL EXPERIMENTERS KIT
6 pilug-in Projects. No soldering required. Includes relay module, motor, bil sersoor, reed switch, light bub, 4 LEDs, powerfl/ sotware on disk and FREE 'Guide to Amiga interfacing"

```
Fermen
```

NEW! DUAL MOTOR KIT £28.95. Ideal for buggies \& robot arms.

## NEW! SWITCHQUIZ

Amazing Question \& Answer system with hand held modules. Program \& Questions discs. Specialized subject disks available soon. 4 way multi choice format, 2 or 4 player.

SPECIAL INTRODUCTORY PRICE $£ 28.95$
Please send cheque payable to SWWTCHSOFTT or ring Switchoott on 0325365773.
Include $\varepsilon 1.50$ PSP. Overseas add $\varepsilon 4$
SWICHSOFT Dept AC394,25 Ridgeway, Darington, Co. Dutham DL. OSF.


Recovery (part of Upper Disk Tools)

* Very fașt retrieval of files from AmigaDOS disks including damaged or corrupted ones. Both from hard and floppy disks.
* Supports the reading of "File Systems" up to those new to AmigaDOS 3.1 (even under AmigaDOS 2.04)
* Requires AmigaDOS 2.04 or greater. Runs as a Device \& Commodity Upper Disk Tools is $£ 19.95$ (Access/VISA/Switch) \& available from . Brian Fowler Computers Limited Tel: 0392499755 and Blittersoft Tel/Fax: 0908220196
Or from the Distributor by UK cheque (p\&p included for Europe, $£ 1$ extra elsewhere): Wheelbarrow Software Limited. Broad Oak, Two Tree Hill, Henley-on-Thames, Oxon, RG9 1RQ. (no callers please)


## GVB-PD AMIGA PUBLIC DOMAIN Dept AC, 43 Badger Close, Maidenhead, Berks SLS 2TE, UK Second to none. Ist Class Service Telephone: 0831649386 Call 9am to 7pm



路$n$ the coming months Im going to start looking into some of the Amos mail I get via AC and talk through some of the subjects that you want to talk about. The basis of this month's and bobs is a letter I got from Thomas Jones of Darlington, Cunty Durbam.

Q"Could you please try and solve a little problem I'm having writing a program in Amos v1.35? I am trying to write a MED Module Player program but as usual I jumped straight mo my code and started to write without thinking.
'Everything went fine until I tried to write a file requester. Try ind try as I might I cannot write a fully working bug-free file equester. I can't or don't know how to select a file with the mouse. I can't get the computer to distinguish between a file (hodule) and a directory (drawer). I have been experimenting with:

## Print Dir Nexts("*,*")

to no avail. Is it possible to make a point and click file requester in Amos or will I have to use the lame standard file requester?"

AWell, Thomas, you've got yourself in a right old pickle there. Couldn't you have started on a less difficult problem? File requesters have been done by various people, and the best one I know of is by Len Tucker, and it's 3D too. You might get in touch with Len at Amos PD Library, and they'll sort you out. In the meantime here is my thoughts on the matter.
Doing the buttons on the requester is easy. You define the buttons using Mouse Zones and when you click on them off they go. You can store the frame and the buttons as a IFF file, but this is very memory costly, and so it would be better to draw the requester on the screen and then erase it afterwards.
If you want to make your requester overlay the screen, you'll have to open another thin screen for it, of course.
Doing a directory and sorting it shouldn't present too many problems. Just put two windows inside the requester and do all your display of files in another and input in the other.
Point and click is the hardest bit. The way to do it is to zone strips of the window and remember what is in each of those strips. Stick each filename in an array and when you point and click that value is loading into the load string. It's a bit hit and miss, and you'll have to have a large array, but there it is.
The simplest (and in code terms the smallest) way to do it is to avoid the point and click method altogether. Simply print up a list of files on the disk in a nice sorted window, then invite the user to type in the requested file.
When they do and press Return, use the Dir and Exists file commands to find it and load it. Use error checking to check if the file


Our rudimentary file requestor

## Write a requester

If this has sent you off on a useful tangent, why not show me what you can do with Amos requesters. Can you select files with point and shoot? Or can you think of a better way? Send in your examples to the usual address.

is there on the disk. Use Parent and DirS to navigate around the disk.
Below is an example.. It doesn't do any file loading or anything like that, but it shows you how to use windows on your Amos screen. Once you have that down you can use the DOS commands and ask for key presses, just like you would in an Amos program. Use the window commands to add another thin window on the screen for your input, filenames etc.
The trick with Amos is to keep it simple. Don't try to run before you can walk and don't try to hit machine code until you know which way is bitwise.

## Any

 requests?

```
Ren ** ACReq1.Amos **
Ren *
**
Ren **
```

Screen Open $0,640,200,16$,Hires
Reserve lone 3
Reserve Zone 3
Paper $12: \mathrm{Cl}$
Paper
Int 11
Bar 45,170 To 90,190
Bar 130,170 To 180,190
Bar 225,170 To 270,190
Ink ?
Box 65,170 To 90,190
Box 130,170 To 180,190
Bor 225,170 To 270,190
Ink 2,11
Text 52,183 ,"Dir"
Text 132,183,"Parent'
Text 132,183, "parent
Text 233,183 , "quit"
Text $233,183, "$ "uit ${ }^{\text {to }}$ Set lone $1,45,170$ To 90,190
Set lone 2,130,170 To 180,190
Set lone $3,225,170$ To 270,190
1at 11
Bar 10,10 To 629,160
Ink?
Box 10,10 To 629,160
Paper 11
Yind Open $1,20,20,76,17$
Dirs="Anos: ${ }^{*}$
oir
MAIN:
Curs Off
If House key and Mouse lone=1
Dit
End If
If Mouse Key and Kouse Zone=2
Parent
Print : Print "Going back to parent dif..."
Dir
End If
If Nouse Key and Mouse Zone=3 Then goto QuIt
Goto NAIN
QuIt:
Print "Do you want to quit? (Y/K)";
Input is
If $115=" \mathrm{~N}$ "
Goto MALN
End if
If $\mathrm{N} 5={ }^{\prime \prime} \mathrm{n}^{*}$
Goto MAIK
End If
End

> This month Amos guru Phil South looks at DIY file requesters

## Write stuff

If you have an Amos question, then please write to Phil South, Amos Insight, Amiga Computing, Europa House, Adilington Park, Macclesfield SK10 4NP.

## (

## The 16 Bil Sound Processor

16 Variable Effects<br>Reverb, Echo, Deray, Bounce, Flange, Chorvs,<br>Cut Copy over Copy functions<br>Distort, Contort, Phase shift, Phaser, Resonant<br>Cut, Copy over. Copy into, Copy all, Scale, Zero.<br>Foodbock, Resomplo, Detune. Enhance. Make<br>Somples held in 16 Bi format. All processing done in 32 Bit format. 16 Bit sampler not required, playbock through Amigg sound hardware. Loods and Soves 8 and 16 Bit hardware. Loods and Soves 8 and 16 Bi yamples. Uses Fast RAMA where availoble Add, Subtract, Multiply, Divido, AND, OR, XOR GREAT Invert, Hal Wove Rectity, Fu Wowe' Requires Workench V2.04 or greater and 1 Meg RAM - More recommendod.<br>Price 840 inc P\&P and Manual - Free upgrade to V1.1 Only from:Blachford Technology, 77 Southwell Road, Bangor, Co. Down, Northern Ireland, BT20 3AE Alene alow 28 doystor delimer

## Micro Active I $\mathbf{0 1 9 8 1 9 1 0 0 0}$

Amiga CD32 $€ 275.45$ NEW +4Games

| Amiga 1200 <br> Race ${ }^{n}$ Chase pack <br> $£ 275.00$ |
| :--- |

• NEW -
ATARI JAGUAR ARIJAGUA
£CALL
Just a small selection of uthat's available at MICRO
ACTIVE

ATTENTIONI Existing A600 \& A1200 owners. Need an internal hard वrive with 12 months on site warranty irrespective of the machines age? 120 Mb HD installed and tested by approved Commodore engineer only $£ 264.99$ (price includes collection and delivery). Beware some companies do not use approved Commodore engineers and only give warranty on the hard drive unit and not your Amiga.
Overdrive 35120 Mb ext Hard Drive $£ 275$. DIY internal Hard Drive kit including HD software \& cable. 2.5 IDE $80 \mathrm{Mb}-$ \&CALL. 2.5 IDE 120 Mb - \&CALL

HOW TO PAY: Please make chequesP.O. payable to MICRO ACTIVE and send with order to: MICRO ACTIVE, Bow House Business Centre, 153-159 Bow Road, London E3 2SE.
 - Prices may change without notice - AMIGA $1200-1$ year on site warranty -


GRADE 'A' BLANK DISKS
FULLY CERTIFIED, ONE FOR ONE GUARANTEE

DSDD 3.5
$250-£ 70+£ 3$ p\&p
$100-£ 30+£ 3$ p\&p
$50-£ 17+£ 3$ p\&p

DSHD 3.5
$250-£ 106+£ 3$ p\&p $100-£ 43+£ 3 p \& p$ $50-£ 22+£ 3 p \& p$

Includes FREE LABELS \& prompt despatch 10 DSDD IN LIBRARY CASE ONLY $£ 4.99+£ 1$ p $\& p$ 10 DSHD IN LIBRARY CASE ONLY $£ 5.99+\varepsilon 1$ p $\&$ p 100 CAPACITY LOCKABLE DISK BOX ONLY $£ 3.50+£ 2$ p\&p

## INCREDIBLE DAT OFFER !!!!!!

E DAT R48 £4.30 톱 DAT R62 £4.60
DAT R92 £5.00 E DAT R122 $£ 5.50$ each $+£ 1$ p\&p
PHONE THE PLANET DATA QUOTELINE AND BE AMAZED HOW CHEAPLY WE CAN MEET YOUR BLANK MEDIA NEEDS

Tel: 0234240954 Fax: 0234240272
PLEASE MAKE CHEQUES PAYABLE TO:
PLANET DATA
9 High Street South, Olney, Bucks, MK46 4AA


Fasten your seat belts and get ready to fly


Seek out and destroy the forces of SPUDD!


DATELINE: THE NEAR FUTURE

## MISSION BRIEFING:

Intelligence reports are being received that a renegade organisation, SPUDD is massing its forces ready to attempt word domination. Only an underground task force can save the day. Are you ready to become a part of that underground taskforce? Which of the 40 aircraft will you choose as you fly 100 sorties across the world against the forces of SPUDD? The civilised world anxiously awaits your decision!

Available for the Amiga PC version coming soon

38/40 High Street, Green Street Green Orpington. Kent BR6 6BJ Tel: Int +44 (0) 689850770
© Rasputin Software 1993 Rasputin Software is a trading subsidiary of Power Label Limited

Home publishing in colour has come a long way in the last year or so. Although the Amiga has a good track record for displaying colour on the screen, the echnology to transfer those colours on to paper, fabric or even IIn has, until recently, not been affordable.
Ink-based printers are today producing a quality of output tat would have been unheard of a few years ago, quality that is pod enough for many applications - coloured flyers, posters and the like. But colour can be an animal to work with, and if pou are not careful it can eat you alive.
The first point that needs addressing is your Amiga itself. For fublishing in colour you will need lots of memory, a fast processor at the heart of your Amiga, and a large storage device. The reason for the hard drive and memory boost is because you can forget about printing HAM graphics, or even 256 -colour ones - what you need are 24 -bit graphics.
Anything less than this quality of graphic and the professional output you will be searching for will be lost. Photo-realistic praphics contain thousands upon thousands of colours, and the best Amiga file format for them is 24 -bit IFF-ILBM.
The catch is that 24 -bit graphics do not come in anything other than large and extra large. Sizes of 1 Mb and 2 Mb are common, but images many times that size are frequently encountered when working with graphics that have been scanned at a resolution of 600 or perhaps 1,200 dots per inch. So before spending all your cash on a colour printer, make sure your Amiga is capable of dealing with the images you will be wanting to print with it.

## LIMITATIONS

It is also worth remembering that colour printing is not as simple as printing in black and white. Low-end colour printers have the same limitations as mono printers when it comes to printing continuous tones.
Because these printers cannot print 16.7 million true colours, the graphic will have to have a dither applied to it so that the printer can use the three or four colours it does have to simulate the colours in the graphic.
Any graphic you print will be dithered if it contains a colour that is not an exact match for the colours in the printer, so you are never going to get the same quality of graphic on paper as you see on the screen.
You know that every pixel on the (AGA) screen can be plotted in any colour from a 16.7 million colour palette, and up to 256 different colours can be on the screen at once.
But a colour printer can print only three or four colours, so if there is (say) an orange pixel in your graphic it will have to simulated on paper by the printer mixing dots of three or those four colours.
Another reason for the difference between screen output and what you see on paper is that the colours you look at on the screen are being shined at you (luminance) and every colour is

## 



Colour pages certainly look great, but working with colour, from the design down to putting it on to paper, is a lot more complex and costly than doing the same in black and white

composed from red and green and blue (RGB) components.

Colours in a printout are being reflected at you, and these are composed of cyan, magenta, yellow and (usually) black components (CMYK).

From screen to printer, the colours have to be converted from one system to the other, and this process is the bane of professional desktop publishers.

To improve the colour quality of your printouts you need to fine tune the "colour correction - the process that attempts to produce on paper the same colours that you see on the screen.

To do this you need to buy some printer software, Studio if you want very fine control over colours, TurboPrint Professional if you're not that bothered but would like a little control.
Before buying a colour printer don't


# Coloured by experience 

forget that they have a high consumables overhead. Look into the cost of the paper it requires, the inks, ribbons or toner, and all of the other costs that you may encounter in needing software to process the colour graphics you want to print.

But the most important thing you should keep in mind is that colour printing technology has not yet reached the point where photo-realistic printouts are affordable to the home user.

You can get some very good output indeed from sub- $£ 1,000$ ink-based and thermal wax printers, but if you are looking for a colour printer that can print graphics that you cannot tell apart from a colour photograph, then you need something called a "dye sublimation" printer.
Like the pixels on your screen, every pixel (dot) a high-end dye sublimation printer prints can be a true colour, not dithered I mean, from a palette of 16.7 million colours or more. Sounds perfect, yes? But before you write that cheque, make sure you have six or seven thousand pounds in your account to cover it.

Ben Pointer on how to create spectacular full-colour documents with your Amiga



AMIGACOMPUTING

## READER OFFERS SPRING CLEARANCE



## Educational Software

| Adi Junior Reading (4-5 yrs) | Price: $£ 15.95$ | Code: 9551 |
| :---: | :---: | :---: |
| Adi Jurior Reading ( 6.7 yrs) | Price: $£ 15.95$ | Code: 9552 |
| Adi Junior Counting ( $4-5$ yrs) | Price: $£ 15.95$ | Code: 9553 |
| Adi Junior Counting (6-7 yrs) | Price: $£ 15.95$ | Code: 9554 |
| Paint and Create | Price: $£ 15.95$ | Code: 9962 |
| Merlins Maths | Price: $£ 15.95$ | Code: 9963 |
| Ad English (11/12 yrs) | Price: $£ 15.95$ | Code: 9515 |
| Adi English ( $12 / 13 \mathrm{yrs}$ ) | Price: $£ 15.95$ | Code: 9516 |
| Ads Maths (11/12 yrs) | Price: $£ 15.95$ | Code: 9517 |
| Adi Maths (12/13 yrs) | Price: 115.95 | Code: 9518 |
| Magic Maths | Price: 88.95 | Code: 9577 |


|  | Price: $£ 12.95$ |  |
| :--- | :--- | :--- | :--- |
| Mastering Amigados 2 Vol 1 | Code: 9541 |  |
| Mastering Amigados 2 Vol 2 | Price: $£ 11.95$ | Code: 9542 |
| Mastering Amiga Beginners | Price: $£ 11.95$ | Code: 9543 |
| Mastering Amiga Workbench 2 | Price: $£ 11.95$ | Code: 9544 |
| Mastering Amiga Assembler | Price: $£ 14.95$ | Code: 9545 |
| Mastering Amiga Amos | Price: $£ 11.95$ | Code: 9546 |
| Dabhand Guide to Amigados | Price: $£ 8.95$ | Code: 9856 |
| Amiga Made Easy | Price: $£ 8.95$ | Code: 9871 |

## Games Corner \& Accessories

| Voodoe Nightmare | Price: $£ 1.95$ | Code: 3656 |
| :--- | :--- | :--- |
| International 30 Tennis | Price: $£ 1.95$ | Code: 3658 |
| Wellris | Price: $£ 1.95$ | Code: 9933 |
| Future Dreams | Price: $£ 1.95$ | Code: 9935 |
| Light Corridors | Price: $£ 1.95$ | Code: 9939 |
| Dalek Altack | Price: $£ 9.95$ | Code: 9859 |
| Dragon Mlouse | Price: $£ 9.95$ | Code: 9898 |
| Soundblaster | Price: $£ 5.95$ | Code: 9915 |
| Dustcover | Price: $£ 1.95$ | Code: 9507 |

## UGA Products

| Powermenu | Price: $£ 8.95$ | Code: 9862 |
| :--- | :--- | :--- |
| Powerwaves | Price: $£ 8.95$ | Code: 9944 |
| Drive X | Price: $£ 6.95$ | Code: 9813 |
| Kir Da Virus | Price: $£ 6.95$ | Code: 9863 |
| Huge Professional | Price: $£ 8.95$ | Code: 9855 |

## Music Software



Amiga Computing March 1994


## READER OFFERSE

## SPECIAL RDADER OFFER ALL TITLDS ONLY $\& 16.95$ BACH, SAVE $£ 9$ PDR TITLE

## Maths (Algebra)

For children 6 to 16 years svering many areas from Attainment urget 3 of the National Currioulum, the Out of 10 Maths (Algebra) package is soxed with subjects, levels and activities bcthalenge all children from Key Stage 1 7t up to Key Stage 4.
Flowing sequences, interpreting Thphs, solving equations and numerous Ser algebraic skills have never been so vach fun. This is the fun way to practise und become fast and proficient with the manipulations needed for high exami-

Maths (Number)
For children 6 to 16 years Well thought out to offer real benefits to Hildren studyying in British schools. PC Plus (Niy 38)
Educationally worthwhile and exciting to slay - a rare combination"
-Achimedes Word (December 32)

- Unique in home-based programs

The Mase of the National Curriculum Ink. -The Micro User (September 32) "Excellent for reinforcing specific mathematics knowledge.'

- Junior Education (Juty 33)

The 10 out of 10 Series lives up to its
Maths (Statistics)
For children 6 to 16 years Attainment Target 5 of the National Curicalum is Data Handing -a vital area o ot Mathemalics. 10 out of 10 Maths (Staisisics) covers 36 speaficic topiss strom that subject. In this paccage, recording animal sightings In an animated pond or orling dice are just Two ot the mary challenges that thildren
will relish as they leam about statistics. will relish as they leam about statisicics. And can graph drawing be a game? it becomes arcade action as bricks and bombs are dropped on to the charts. This
is a really enioyable way to learn about is a realy
statistics.


## -

## Junior Essentials

## For children 5 to 11 years A truly flexible package covering many topics essential for building a good education toundason. The areas covered have been carefully chosen by a team of experts and come from several subijects and levels of The National Curriculum. The childs progress in these areas is constantly monitored and recorded and par- ents octeachers can easily fiscover ents or teachers can easily discover chid needs hep. As wina al out of 10 senies, further motivation to play the games and leam more is added in the torm of High Score Tables Code: 9599 the games and lean more is add in <br> 

## Early Essentials

## For children under 7 years "Outstanding. All of the activities are not only very enjoyable but theyre well thought through. It's one of the best multipurpose infant packages Ive seen in a long while. If you have young kids get it for the home. It you're a teacher, hammer on the headteacher's door and beg tor money to buy a copy." - Achimedes Word (uuy sin) <br> "At just $£ 25.95$ youlll be hard pressed to Ind anything which even comes close to Early Essentials." <br> -Mco Computer Mart (Sept 33 ) Code: 9587 <br> 

## French

## For children 6 to 16 years This suite of six educational games will give fun and motivaton to all children learning French. The package is designed with the Modern Languages National Curriculum firmly in mind and contains many challenges to reinforce facts stated in Atlainment Targets 3 and 4. <br> 10 out of 10 French is essential for children on Key Stages 3 and 4 , but the numerous parent and teacher customisation options make the sottware sutable for all children - however young - who are learning the French language. <br> Code: 9590 <br> 

## Dinosaurs

## For all ages

This package is the fun way to leam the truth about dinosaurs. The six games all have supert digtised graphics to make a whole area of history -dinosaurs - come alve. It you came face to face with a tyrannosaurus would you run away? Or are you sate because its a vegetarian and wouldn't eat you? This, logether with 100 s of other interesting facts, can be discovered from this enthralling package. The six games - all with single and mult-player options - are educational fun for everyone. Code: 9588


## English

## For children 6 to 16 years "Everthing being done is relevant to the

 player's education. An invaluable curriculum experience, plenty of fun, lots of variety.$-P C$ Hom - PC Home (November 33) "Guaranteed to sustain the attention of even reluctant learners." - RISC Usee (JanuayyFebruany 93 ) "Most importantly, as the games are fun children cant help but learn." children cant help but learn.

- Acom Computing (March 38 ) "Allows progression from Junior school age right up to GCSE level.
-Aniga tise ittmations/'Sect 3 ) -Angat User intamationa/(Sept 33 ) Code: 9584



## Driving Test



## Order foflines $051-357127 / 5$

Fax: 051-357 2813 General Enquiries: 051-357 2961
Order at any time of the day or night. Don't forget to give your name, address and credit card number


If you've missed any of these issues, now's your chance to put things right, by either buying an individual issue or a full six months' worth. But hurry - stocks are limited!


We go behind TV's role playing show - Knightmare. Guide to budget DTP software. Reviews of Big Altemative Scroller 2, ProPage 4, Bars and Pipes Pro 2 and Mavis Beacon Typing 2 ON DISK: Infofile, Scala HVT (save disabled) VALUED AT E50


Caligari 24 reviewed. Survival guide to hard drives. Reviews of Phone Pak, VLab Y/C and Alla Colour Hand Scanner. ON DISK: Image FX demo


DTP round-up of the best DTP packages available. Survival guide to SIMMs, ZIPs and DRAMs. Reviews of Essence 2, Picasso 2, Hama 292 and MiniGen Pro. FREE Software encyclopaedia paperback book ON 2 DISKS: Ouarterback Tools, Harmoni Midi Sequencer VALUED at E70


Evelyn Glennie talks about her music. Reviews of Real 3D v2, Emplant, TOSMS and PIPView. ON DISK Bars \& Pipes Pro 2 Jr VALUED AT $£ 100$


Amiga CD32 taken apart. Survival guide to modems. Hard drive round-up. Reviews of DSS8+, Technosound Turbo 2, Brilliance, AMOS Pro Compiler and Quarterback Tools Deluxe. ON 2 DISKS: Caligari, 10 out of 10 Maths demo and F117A Stealth Fighter full mission demo VALUED AT $£ 50$


Money saving guide for new Amiga users, Word Processor roundup, RAM expansion round-up, Survival guide to floppies. ON 2 DISKS: Take Two animation editor VALUED at $£ 80$, Fusion Paint VALUED at $£ 30$.


The latest three professional video add-ons reviewed - A Video Y/C IV24 $\sqrt{ } 2.0$ and Videopilot 330 . Survival guide to printers. Reviews of Ami-Back, Ami Tools and Kid Pix. ON DISK. Cinelvorph jr VALUED AT £50


Modeling Madness, the ultimate guide to all things three dimensional. Sequencer round-up. Survival guide to scanners. E -mail for the masses. FREE 16 page CD32 supplement ON 2 DISKS: AMOS 3D, Batdog. Stickit, ARoach, Virus Checker and Akeko-AGA


Virtual reality - the new frontiers, Samplers survival guide, Floppy round-up, AC awards, Montage 24, Show report, Database round-up Paint package round-up. FREE 64 PAGE BOOK: All about the A1200. ON 2 DISKS: Design Works VALUED at £50, Vidil Amiga (12) RT Software


Amigas in the movies. Round-up of sound samplers and flight simulators. Reviews of Wavetools, I-Card, Protext v6.0. Star SJ144, TrapFax, Syndesis and Spectrum 28
ON 2 DISKS: The Publisher and MRBackup Protessional VALUED at $£ 40$.


Keep all your back issues in pristine condition with the Amiga Computing binder, a must for any serious Amiga user.

| June $1993+3.5{ }^{\text {d }}$ disk | Price £3. 25 | Order No. 9762 |
| :---: | :---: | :---: |
| July $1993+3.5{ }^{\text {" }}$ disk | £3.25 | 9763 |
| August $1993+3.5{ }^{\text {' disk }}$ | £3.25 | 9764 |
| September $1993+3.5^{\prime \prime}$ disk | £3.25 | 9765 |
| October $1993+2 \times 3.5^{5}$ disk | £3.25 | 9766 |
| November $1993+2 \times 3.5^{\prime \prime}$ disk | £3.25 | 9767 |
| December $1993+2 \times 3.5^{\prime}$ disk | £3.25 | 9768 |
| Xmas Issue $1993+3.5^{\text {" }}$ disk | £3.25 | 9769 |
| January $1994+3.5^{*}$ disk | £3.25 | 9770 |
| February $1994+3.55^{\text {" disk }}$ | £3.25 | 9771 |
| Any 6 issues above | £18.00 |  |
| Amiga Computing Binder | £5.95 | 9509 |

## Best-Selling Amiga Titles at Amazing Prices.



An essential requirement for the office and your home! The friendliest word processor you'll ever use. Simple enough to have you working in minutes and yet sophisticated enough to provide all the features you need for your resumés, reports, correspondence and all your writing projects. Page layout, mailing list merge and a variety of other up-to-date functions make KindWords the right choice for users of all ages.


This tremendously powerful desktop publishing program offers unrivaled output, ultra-fast operation and a wide variety of superb special effects you
 never imagined using. This publishing system lets you design and create professional-looking documentation efficiently and effortlessly. Now you can create the perfect page layouts for your leaflets, ads, newsletters or novels, with infinite ease!

## The Lost

Round out your computer game library with a fortune of interactive mystery, fantasy and science fiction adventures youll be sure to treasure in one value-padked collector's edition! Enjoy
 spine-tingling suspense and brain-teasing puzzles in such big-name games as Zork, Planetfall and Deadline. Dare to solve murder cases, discover lost pyramids, break mysterious curses, and rendezvous with alien vessels in your favorite Infocom adventures!

(2) $1 / 2$

This acclaimed spreadsheet, database and charting program lets you take control of all your number and data tasks! Tackle financial analysis, database lists and marketing research with the accuracy and speed your projects require. Organize, calculate and present your data clearly and graphically with colorful charts all in one multi-use program. Save time and energy by automating repetitive or tedious tasks with our simple macros command and more!

Now you can get four of the all-time best-selling Amiga programs for amazingly lower prices. For more information please call 0295252524.

Copy dates: April 14 Feb On sole 10 Mar May 14 Mor $\quad$ On sale 7 April June 11 April On sale 5 May

Free typesetting service provided
$49.5 \mathrm{~mm} \times 35 \mathrm{~mm}$
$103 \mathrm{~mm} \times 35 \mathrm{~mm}$

## GRADH1C 54?

Amiga Shareware \& PD Soltware
Fred Fish - Scope $\bullet$ Grapevine • AM/FM - Demos - Games • Assassins © Utils etc

What we have to offer
Detailed information of every disk

* Special offers for members
* New titles artiving daily
\# Software helpline
* Some doy despatch on all orders

For our 3 comprehensive catalogue disks please send a cheque/postal order for $\$ 1.25$ to: Graphic F/X, Dept AC, PO Box 69, Manchester M21 2BN Tel: 0618604292 (8am-8pm) HARDWARE
CD32 including Oscar and Diggers - $\mathbf{\$ 2 9 4 . 9 9}$ A1200 Race 'n' Chase - from $£ 294.99$ A1200 Desktop Dynamite - from $£ 339.99$ GOT A MODEM?
FREE download of our main PD catalogue from
FANTAASIA BBS On OB65 838533
(24hrs/7 days - ACAA support)
Jorvik Public Domain
(Dept AMC) 22 Hemlock Avenue, York YO3 9DG 0904624637
CATALOGUE 75p PD DISKS 79 p
+50 p P\&P per order
Fish 1-930, LSD Tools 1-150, ASI Games 1-150 Grapevine 1-18, 17-Bit 1-2800 The Final Frontier 1-6
Please make payment payable to: D BATEMAN

## BJ ELECTRICAL

Loads of Amiga Software available All recommended retail prices from Centresoft less $15 \%$
Please send cheque with order 7-14 days delivery Ring 0527542940 for lists of games and prices


AMIGA KEYBOARD OVERLAYS
...now you can wite the keyboard commands on the keyboard!

Brilliamt tor ligight simulations and all proqrams with tepboard cosmmands..ggmes, musit, graptics, bisiness. DTP, angthing


 Refal lit Wravi2.50


## FREE PD SOFTWARE

## AMIGA - PC - All Commodore Call (081) 6515436 or

Write to 45 Brookscroft, Linton Glade, Croydon CRO 9NA Independent Commodore Products Users Group

## AMOS USERS

1 made E20,000 from the AMOS game Churlie
Chimp which won GAMESMASTERS AMOS programming competition Join THE MR AMOS CLUB and YOU could be next! Issue one of our AMOS disk magazine is FREE to YOU! Learn Everything about AMOS from the Masters Send your name to:
8 Magnolia Park, Dunmurry, BT17 0DS

## ET SOFTWARE

We are the leaders for
SPEEDWAY GAMES
Write for FREE newsletter DEPT AMC
18 TELFORD AVENUE, LILLINGTON LEAMINGTON SPA CV32 7HL


## ARNOLD COMPUTER SIIPPLIES <br>  <br> Amiga A1200 Amiga CD32 <br> Box of 50 Blank Disks (including labeb)............ $\mathbf{8 1 9}$ Free local delivery ( 10 mile radus) All your computer reeds catered for. <br> Ploase phone or fax for latest prices. Manga videos now in stock <br> Plaase ring for information pack. Prices from $£ 10.99$.

Barry Voce 0602264973 11 Campion Street, Arnold, Nottingham NG5 8GR

```
NORTHERN AMIGA USERS GROUP
Hy User Giroup foe
FREE FREE . FREE ...FREE....FREE MEMBERSHIP Why join another Amiga club? Our General membership is free and the range of services that we offer is outstanding. Why pay extortionate prices at another club when they offer little in the way of help. discount or member input? All we ask trom you is to send an SAE for our information pack and application
form. We are sure you will want to join by thent form. We are sure you will want to join by thent
P.O. Box 151, Darlington. P.O. Box 151, Darlington, County Durham, DL 3 8YT
```


## MILITARY SIMULATONS

Barbarossa June 1941 @ $£ 17.00$
For those interested in intelligent stralegy wargames. Send SAE for details to:

KW Software
155 Ringinglow Road, Sheffield S11 7PS

## P $\begin{array}{r}\text { Scorpion PD } \\ \text { "LQQK" }\end{array}$

AMIGA Public Domain from 70p per disk INTERESTED?
For our comprehensive catalogue disk send 50 p or 21 st Class stamps + SAE
26 Broadmarsh Close, Grove,
Wanfage, Oxon, OXI 12 ONH
 Consultancy Service

- Typesetting and Wordprocessing
- we will gipect or woul-pmoess any menber doxument
- Swap-Shop
- Members Section
- Monthly Disk Magazine
- Regular Moetings for Member
- Cheap Public Domain
-heap Public Domain


## Your Choice P.D. <br> One of the higgest <br> PD Houses in Britain <br> For a fast and reliable but foremost friendly service <br> For all your P.D. needs <br> We cannot be bettered <br> So don't delay send for a catalogue today Only 70p <br> Tel: 0618818994

## SPEEDWAY SIMULATIONS <br> For all Amigas <br> From VG5 SDFTWARE <br> 1993 18-Heat format Divs $1 \& 2$ $£ 8.50$ each or $£ 10.99$ for both <br> 1992 15-Heat Format Divs $1 \& 2$ $£ 7.50$ each or $£ 9.99$ for both

1972-1984 British League... $£ 12.95$
World Championship Speedway... $£ 6.50$

## Cheques and postal orders to:

VGS SOFTWARE
59 Ecclesbourne Drive
Buxton, Derbyshire
SK17 9BS
Or send SAE for further information

## STUNNING Backgrounds

Borders and Brushes New copyright-free images for Amiga titling, genlocking, slideshows and presentations.
Send £5 for sample disk plus Titling Tips
disk and list - or SAE for list only - to:
CBtv, 9 St Annes Street,
Padiham, Burnley, Lancs BB12 7AX Tel: (0282) 778249

## Are You Missing Out on the VERY BEST AMIGA User Group??? <br> Thousands of New Contacts, Free Help \& Advice, Second hand Hardware. Software and Hardware bought / sold exchanged. Exclusine massive Club discounts, Latest product information and member reviews. Plus the be product information and member reviews. Plus the best Fanzines/diskzines and Millions of PD/Shareware titles al unhelievable member only prices. Exclusive Newaletters, BBS and much, much more... Find out what you're missing by sending an SAE for our FRIE intro pack toc C.C.C. (D03), FO Bor 121, Cerrarha Gress, Bucks, SL9 SNP <br> (0753) 884473

## KEW=II <br> SOFTW ARE

Est. 1989
THE BEST QUALITY PD \& SHAREWARE
The LEADER -
OTHERS CAN ONLY FOLLOW!
FREE FRIENDLY HELP BY
POST OF PHONE ANYTIME
PICK YOUR OWN PROGRAMS!
BY NAME NUMBER AND SIZE!
IT'S EASY!
500k makes 1 bootable disk!
800k makes 1 non-bootable disk!
FREELY UPDATED CATALOGUE
WITH FULL DESCRIPTIONS
INDEX \& VIRUS CHECKER ONLY $£$
PO Box 672
South Croydon
Surrey CR2 9YS
Tel: 081-657 1617
-3 disks $E 1.50$
4 or more
4 or more
ONLY f1.25:


©anasonic's range of dot matrix printers is as extensive as anyone's these days, but the undoubted star of the lower priced models has to be
the KX-P2123, a printer claimed by its distributors to be the UK's best selling colour dot matrix model.

In today's intensely competitive market, you have to offer one or two extras to come even close to that sort of claim, and the KX-P2123 has quite a few of them.

Bundled with Wordworth 2 AGA and offering a number of features some more expensive printers cannot match, the Panasonic is flexible and advanced enough to compete on at least equal terms with the increasingly popular bubblejets which, though capable of better output, can't be put to as many tasks as a dot matrix and are generally slower.

This is one of Panasonic's Quiet printers, but the noise when printing anything other than straight text with the built-in fonts (of which there are seven) is almost as noisy as any other modern dot matrix.

Fairly quiet printing can be achieved with simple documents, particularly in draft mode, but on the whole this is one feature which was a disappointment.

No other aspect of the printer's operation can be said to disappoint, however, and from easy set-up to using the extensive front panel, the user needn't sink into confusion.

An informative 200 -page manual packed with easy to follow guides and more advanced information for programmers will sort out any mishaps which do arise.

The unit's width enables the user to print in the landscape

unit more office-friendly. Panasonic's KX-PTIO sheet feeder can be fitted to further boost flexibility, the dot matrix's main weapon against its inkjet foes. In the spirit of further expansion, a 32 k hardware RAM buffer can also be added, at which point it becomes possible to download fonts to the printer.

These will be used in the same way as the standard built-in fonts for maximum speed, and the option gives users the chance to fully customise their 24 -pin pal.

Print speed is rated at a maximum of 240 characters per second (cps) while using the "micron" ( 15 characters per inch, or cpi) setting in draft mode, and 80 cps in NLQ mode.

Neither of these speeds will mean much to the average user when he or she prints letter quality documents using different
fonts, but as an indication of general speed they are accurate.
The KX-P2123 isn't the fastest printer in its price band, but it is a nifty little mover all the same and when using the mort than acceptable built-in fonts, a large listing or multi-page doc ument can appear in a fairly short time.

Media costs, as with all dot matrix printers, are much lower than those of the average bubblejet or inkjet, and Panasonici) own estimates are that a black ribbon will produce three milion Ascii characters in draft mode before expiring, the colour ribbons offering about a quarter of this output.

This, of course, is no measure of how the cartridge holds out when printing graphics every day, but running costs shoule be acceptably low in even the most ribbon-killing conditions.

A problem all dot matrix users will find with their printen is that the print area - that part of the page on which the print head can physically place a character - is necessarily limited because of the manner in which the paper is passef through the unit.

Rollers and the like have to have something to hold on ta and nothing can be printed in those areas. The result is that the KX-P2123 cannot print in the first or last 1.5in of the mar-
gin, and must skip about two-thirds of an inch at the top of the page and one inch at the bottom.

These figures are pretty standard for a 24 -pin, and the small gap left at the top of a page means that headers should never be affected.

A plus point of the Panasonic is that it seems engineered well enough that automatic form feeds and paper alignment are not adversely affected as they sometimes are in cheaply built units.

Print quality itself is more or less what one expects from an affordable dot matrix these days. Clear and sharp text output is compromised by the dreaded dot matrix banding effect when printing graphics, though the latter is of little concern to those with general correspondence requirements.
Overall, for letters, reports, large documents, and a wide variety of office purposes, the KX-P2123 is a very attractively priced workhorse capable of turning its hand to a variety of tasks.
Its flexibility (it will handle carbon copies and thickish envelopes) combined with clear 24 -pin output makes it a very good choice for anyone with general needs.

STEVIE KENNEDY

## Upper Disk Tools

## Hard and floppy disk retrieval system for all Amigas (Workbench 2+) <br> Supplier: Wheelbarrow Software, Broad Oak, Two Tree Hill, Henley-on-Thames RG9 1RQ Price: £19.95

Though few in number, the range of available Amiga disk recovery programs offers the user an excellent choice. Without exception, however, they all demand a certain amount of Amiga

knowledge on the part of the beginner, even if this is just an appreciation of directory tree structures. Upper Disk Tools (UDT) is designed as a budget package which can be used by more or less the most inexperienced user to retrieve lost, deleted, or headerless files on any trackdisk device such as a hard drive or floppy disk.

The more experienced will find the program every bit as useful, but because of the way UDT is programmed it is difficult not to recommend it to first time hard drive owners.

Supplied on a single disk, the package comprises two programs, Recovery and DSBackup. The former carries out all scanning and retrieval tasks while the latter has the simple job of storing and restoring a hard drive's Rigid Disk Block.

Running from CLI or Workbench, Recovery offers four main scanning options such that the user can decide to search
for files which have been deleted, or lost, or headerless, or even not deleted.

A second toggle switch jumps between the fast scan and deep scan modes and another makes it possible to lock out a drive while it is being scanned.

That's it. No funky or advanced features to confuse the user, just a straightforward, easily understood interface which so obviously does the job that the program's 50 -page manual need hardly be opened.

Better still, though, is the way in which Recovery presents the files and drives it is being asked to scan. Once installed with the program's options set to the user's tastes, a drive icon with the name Recovery and the logical device name REC: pops up

## Bubblejet ink refil

Cheap ink refill for most types of bubblejet printer Supplier: First Computer Centre

Phone: 0532319444
Price: $£ 8.99$ per ink colour, or $£ 26.98$ (CMYK), or $£ 6.99$ (black only)
Though bubblejet and inkjet printers have become more and more popular of late, the cost of running the beasts has always been significantly higher than dot matrix printers in the same market. Replacing the original ink cartridges using the manufacturer's own brand can be an expensive affair, so step forward the re-inking brigade.

First Computer Centre's refill kit has basic common-sense in its favour and it should be a straightforward job for most users to replenish their printer's ink cartridges using this product.

Supplied in large plastic syringes, the three basic ink colours (Gyan, magenta, and yellow) can be bought separately or with a black ink syringe to complete the foursome.

In this way, users of mono models can give their printers a transfusion without extra expense, and those who use a particular ink colour more than others can buy the particular colour which is running low.

Refilling the cartridges can be a messy business, and a rubber glove is supplied for the task, which entails the use of a long needle-fike nozzle with which the user squirts ink into the wells in each cartridge. Four or more refils can be made from a

set of syringes, and as the official products often cost more than $\$ 30$ for one refill set, running costs for your squirty friend can be reduced by two-thirds.

Users with money to burn or those who are completely mechanically disinclined will probably continue to pay over the odds for brand name cartridge replacements, but the rest of us would be mad not to consider a cheap refill.

Oh, and it's more environmentally friendly too.
STEVIE KENNEDY
on Workbench and can be accessed in the same way as any other drive.

On opening the drive's window, any devices attached to the system (dh0:, dhl: and so on) will be shown as drawers, and as soon as the user opens one of these windows the scan begins.

During scanning, a fuel bar indicates progress so far and time remaining, and as soon as the process is complete the drive window will display all files and drawers which fit the search criteria. All the user need do now is drag the files he or she wishes to retrieve across to another disk.

Better still, the files can be accessed using word processors, paint packages, and so on, as if they had already been retrieved so that the user can check which data is to be recovered before copying the files to another device.

In this way, the whole process of data retrieval is seamlessly integrated with normal Workbench operations with which most of us should be familiar.

If, for example, a selection of large image files has been deleted to save space, and the user later realises one or more of them is still needed, these "deleted" files can be archived from the Recovery device or backed up using a backup utility. UDT is therefore a much more flexible and friendly alternative to some of the more complex utilities on the market.

Speed is a second factor which UDT can claim in its favour. The method whereby only unallocated blocks on a hard drive are scanned - this is the most likely places for deleted files to be found - makes scanning a 120 Mb partition a matter of three or four minutes.

Deep scans take longer than the fast scan mode, but for most recovery tasks the more rapid method should do the job.

When speed of operation is allied to simplicity and the ability to retrieve files using Workbench, CL , or a directory utility such as SID, Upper Disk Tools emerges as one of the friendliest hard drive utilities ever produced. Thoroughly recommended.

STEVIE KENNEDY

## AGA VideoMaster

Updated version of this classic sound and video
sampler
Supplier:
Phone:
Price:
Regular readers may well recall the original VideoMaster release which brought a unique combination of real-time sequential video grabbing and sampling to the A500.

Admittedly the sequences created were only available as quarter-screen greyscales with a soundtrack which didn't exactly set new standards for Amiga sound.

However when both elements were combined the end results were pretty impressive, especially when you considered that the lowly Amiga 500 was behind the resulting ani-


A unique combination of sound and vision in VideoMaster
mation. Unfortunately due to the design of the hardware and of course the demise of the A500, VideoMaster was left out in the cold. As a consequence HiSoft have now released an PCMCIA version which slots directly into both the A600 and AI 200.

In addition, AGA support has also been implemented which now boasts 64 levels of grey for full frame mono images and Ham8 for colour.

However it must be stressed that still frames are as far as it goes concerning AGA support and full frame images. When it comes to sequential grabbing, 16 colours is still the maximum on offer.
Assuming all the necessary connections are complete and a suitable VCR or camcorder is supplying the necessary footage, actually recording a sequence is very straightforward.

Basically you just select a sequence and hit Record, at which point images will be captured at 25 frames a second - or slower if you prefer - until either you terminate the process your RAM limit is reached.

Once safely imported you can move on to the excellent


Loads of options
video editing tools which offer control over numerous cut, pasis and insert options. It's even possible to reverse selected section and insert single frames or live sequences where necessary.

Assuming you're happy with the video sequence you cir move on to the audio section and import a suitable soundera to accompany your imported video.

Fortunately provision has been made to define how mud RAM should be available for audio and video respectively. As a result a little forward planning should ensure that enough spact is available for both. Because each element is recorded seps rately, synchronisation is down to you. Like video, samples enior

## Amiga Al 200 Beginner's Pack

> A step-by-step introduction to the workings of the Amiga 1200, its Workbench and more Supplier: Computer Manuals Ltd. Freepost, 50 James Rd, Birmingham B11 2BA Tet: $021-7066000$ Price: $£ 39.95$

The A1200 Insider Guide was regarded by many reas ers and critics alike as an excellent choice for the novice to learn just about everything they needed to know to get started on their recently acquired box al magic.

With a sequel published, the series has become a international best-seller and now with the release $d$ d The Al200 Beginner's Pack, it would seem that the surcess story will continue.

The hefty box contains the first book, the follow



Editing an animation
 the beast...
a complete repertoire of editing tools to enable correct syncing with the video sequence. In addition it's also possible to import previously recorded samples and add them into the action where necessary.

At this stage you'll be the proud owner of what is known as a clip. Assuming you have the necessary RAM and want to take your creation even further, assorted clips can be assigned to specific keys within the program's internal video sequencer.

Thanks to the aforementioned sequencer you can append various types of clip together; even still frames can be added to form even more elaborate productions. As you'd expect, this process requires clips to be loaded from disk and then assigned to their particular key.

When your masterpiece is complete it can saved to disk and played back as a stand-alone movie. Better still the package also comes with a series of utilities, one of which enables the creation of an auto-booting disk which can then be shared with your friends or

Al200 Next Steps, a one-hour instructional video and four disks of PD and shareware software.

Crammed onto these disks are a word processor, clip art to incorporate into your art and graphics programs, a music editor (with full instructions), a virus checker, Workbench utilities, a database, fonts and many more features useful at each step along the path to computer enlightenment.

Its recommended that you begin with the video and go from there. The 60 -minute tape was produced by Australia'a leading training house and apparently is a best seller with the antipodeans down in the land of Ozzie.

The show takes you through the very basics of the machine - the keyboard, what the ports are at the back and is ideal for absolute utter beginners. From there, the two presenters move onto the Workbench to show how to copy and format disks among other functions.

For those who appreciate this kind of instruction as an alternative from the written text, there's a second volume on its way in spring and we'll be sure to review it.

Whereas the video acts as an introduction, the books are the main bulk of the learning process and for the job they set out to do, these two are as good as you can get
put into the PD.
Along with the implementation of AGA support come full colour stills. However before you snap up a seemingly unbelievable bargain it must be stressed that grabbing still images isn't as straightforward as grabbing video sequences.

Firstly it's essential that you have a VCR which has a high quality pause. Back in the old days all Amiga frame grabbing relied on first pausing the video and then applying three colour gels in succession to grab the essential RGB components.

Unfortunately VideoMaster's colour imports are a throwback to this rather archaic tradition. As a result the aforementioned red, blue and green gels come as part of the package ready to be slipped in front of the lens at the appropriate moment.

If fiddling around with sheets of coloured plastic isn't exactly your cup of tea there is an alternative in the form of a separate hardware colour splitter which removes the dreaded gels from
at the moment - simple to understand, step-by-step tutorials and clear descriptions make for easy reading and understanding.

Starting with the very basics of WIMP (Windows, Icons, Menus and Pointers) and mouse, the books chart the readers route through to the intricacies of introducing Amiga DOS.

Along the way, you'll be taking a look at making music, printing documents, creating graphics, advice on which hardware you really need not just what the salesman tells you in the shop, and even video editing.

For all technophobes among you, The A1200 Beginner's Guide takes you by the hand and will soon have your fears replaced with an active curiosity.

At $\$ 39.95$ this may seem a little steep but compared to games in the same price range, but you'll spend longer on this and there'll be a real sense of satisfaction when you come to the end of the pack and realise just how much you've managed to learn about the Al200.

Baby steps for absolute beginners and beyond recommended.

ADAM PHILLIPS

A comprehensive and well structured training tool...

# STILL THIE BESTI COMPUTE-A-RACE+ <br> $\qquad$ <br> £19.99 THE FINAL EDITION 



Nter over 3 years of
hess been reieseded mat does it dor
Compute-A-Race+is a Hosse-Racing prediction Progam witten exclusively for vie Ango. The prosson an predict foces,
on mosk aspects of letitish Horse facing.
is it compucated to use?
 wir mine. withen days inputting a race will become second notire. WIL I NEED REGULKR UPDATES?


## is the ONLV predction progan

WHEN SHOULD I ORDER COMPUTE. A-RACE + ?
NOW Betting for profe is betting for funl
COMPUTE-A-AACE + - THE FINAL EDITION - E19.9

Cheques/P.O. payable to HANDISOFT (Mail Order ONLY)
Handisoft, 37 Hearsall Lane, Spon End, Coventry, CV5 6HF

## GLOBALPD

GLOBAL PD
PO Box 1000 Stanford-le-Hope Essex SS17 7DW

Tel: 0375676048 or 0375675721 (10am-4pm Mon-Sat)

Please make
cheques/postal orders payable to "GLOBAL PD'

We stock a huge range of AMIGA public domain software. Over 10,000 titles available. Swift and helpful service. Same day dispatch*

- Excluding cheques.

Send 80p or a blank disk \& 1st class stamp FOR OUR CATALOGUE DISK

All disks are $£ 1.00$ each. Postage \& packing 90 p Choose an extra free disk for every $£ 6.00$ spent!

# FIST London 

A $\frac{\text { Repairs on: }}{}$ A1200, A1500, A2000, A3000, A4000 Plus Amiga add on hard drives and monitors.
Door to door pick up + delivery anywhere in the U.K. Spares also available
NORMAL SERVICE
£24.99 + parts
(Typically 24 hrs )

144, Tanner St., Tower Bridge, London SE1 2HG TeI. 071-252 3553

## South Lincs PD $1-9$ disks $£ 1$ each add 75 p for $\left.\begin{array}{l}10-19 \text { disks } 85 p \\ 20+\text { disks } 80 \text { p }\end{array}\right\}$ P\&P per order <br> Large selection of Amiga PD/Shareware including: Games, Graphics and Animation, Utilities, Music, Demos, T-Bag, Fred Fish Disks 1-920, Assassins Games Disks 1-145. Below is a small selection of titles available <br> 



## DCTV

Although the A1200 and A4000 have delivered infinitely better image quality, the prospect of upgrading from an old machine isn't exactly an appealing for many of the Amiga old guard.

Aside from the obvious financial implications, many Amiga fans have invested long and hard in their existing set-ups which may well be faster, bigger and in most cases better apart from the obvious lack of AGA support.

For static art the obvious answer is a 24 -bit board which will provide graphics superior that of the AGA and still save money over an entire system upgrade.
However what about animation, after all 24 bit boards aren't exactly at their best when it comes to animation, and it's here where DCTV makes it mark.
Unlike all the other 24 -bit systems, DCTV does not employ the quality offered via an RGB signal, but opts for the lesser talents of a composite signal. It's here where the compromise is made with numerous swings and roundabouts building up the overall DCTV picture - excuse the pun.

On the plus side the board's composite only output is ideal for artwork destined for video. Numerous packages including VistaPro, Imagine, Real 3D and Lightwave all support the DCTV file format and will happily render an entire animation on demand.

Another huge advantage for the those making their first tentative and invariably expensive steps in serious Amiga art is the file size of DCTV images. Smaller files equal smaller hard drives equals less expense.

As a rule, a DCTV image is roughly a tenth of the size of an equivalent 24 -bit IFF. For those with limited means and storage this alone makes DCTV an attractive option.

On the display side the system again scores well with a maximum colour range around the four million mark. Although this may seem rather lacking in comparison to the 16.7 million of a true 24 -bit display, it is still far superior to


> This month the spotlight falls on hardware, hard copy and a recent software re-release

that of Ham8. For example an image of $736 \times 580$ at worst would require 426,880 colours, assuming every pixel was a separate colour. Thank God, this never happens - if it did epilepsy would probably reach epidemic proportions.

With the combination of greatly enhanced colour and its relatively minuscule file size animation is almost inevitably. DCTV attains its amazingly small file size by emulating a hi-res 16 or eight colour image which then has a special header appended which the hardware then decodes prior to display - thereby adding the additional colour information.
This decoding process is the systems only downfall as it takes time to decode each image, as a result slowing the frame rate of the anim. This is at its most noticeable when animating with the systems four bit plane images which at best manage around 15 fps . On the plus side, the alternative format of three-bit planes achieves around

## Understanding Imagine 2

For longer than most Amiga fans care to recall Imagine 2 and Real 3D have been batting it out for the top spot as the Amiga's premier ray tracer.

Obviously with the arrival of Lightwave things have changed somewhat but Imagine still remains one of the best ray tracing systems on any machine.

However although Incredibly powerful, Imagine has a notoriously steep learning curve which often kills an enthusiasm stone dead well before even a tenth of the program's potential is revealed.

Ah yes, but surely a little extra
time spent with the manual will solve the problem? Unfortunately not, in fact the more time spent with the manual the more likely you are to become demoralised and eventually give up all together.

With a combination of complex software and a narrative rather than an informative manual, it would appear Imagine 2 needs nothing short of Knight in shining armour to save it from the scrapheap.

Thankfully there is light at the end of the tunnel in the form of Understanding Imagine 2. This is
not just a good reference manual, in fact it's nothing short of the Imagine 2 bible. II you ve not got this classic A4 ring bound masterplece I can guarantee you'll never discover all that Imagine can offer.

The style is friendly, the information invaluable and the overail structure is a lesson to any writing a manual - and better still you even get a couple of disks with examples and additional tutorials from the author Steve Worley.

## Score: 100\% <br> AGA: Don't be silly <br> Average price: $£ 20$

20 fps which with carefully anim design can stretched up to the 25 fps of video.

Alas here lies another compromise as the missing bit plane means a drop in quality as the system works with an enhanced eight colour hi-res image producing harsher transitions within graduated regions of colour.

However even with this slight compromise DCTV animation in three bit planes is still very impressive and is widely excepted as the next best thing to still frame recording thanks to its combination of colour and anim speed.

In addition, the system comes with one of the better paint packages which includes the ability to make 24 -bit frame grabs from freeze framed video in addition to builtin DCTV to Amiga conversion.

All in all, an excellent investment and ideal for anyone who wants affordable animation without a complete system upgrade.


## Caligari 24

Although far from elderly, Caligari is well worth a mention purely because of the dramatic price reduction it's recently enjoyed. Initially the package retailed at a rather nerve-jangling $£ 250$ but thanks to increasing pressure Octree have obviously decided to take drastic action.

As a result the package now retails at just $£ 99$, which for a state-of-the-art package little more than six months old is unbelievable value.

Unlike most 3D packages, Caligari 24 is a modeller rather than a ray tracer which in practical terms means it's ideal for corporate logos, and architectural fly throughs, while lacking the photo-realistic appeal of programs like Real 3D, Imagine and Lightwave.

Basically if you're in the business of creating corporate graphics and more importantly animations, it's among the best in the business thanks to a combination of fast rendering and arguably the best spline-based animation system on the market.

Score: 85\%<br>AGA: OK<br>Average price: $£ 99$ value-for-money - for instance, 25 words cost just $£ 10$. Fill in the form below and send it to us with your payments (if applicable) - and remember to include your telephone number!

- Wanted: Amiga 3000, must have 2.04 Roms- hard disk not essential. $8 / 12 \mathrm{Mb}$ of Ram preferred. Tel: 061-775 1125. - Amiga 500, colour printer, 270 disks, mouse, joysticks. Perfect. 081521 1367. £450, o.n.o.
- Rendale $£ 250$ S-VHS Genlock, 0904 421968.

- A/C Issue 31 onwards, offers. 081-579 5927
- Wrestling play-by-mail game. Paul: 0815934670.
- Amiga 2000, two drives plus genlock and other extras. $£ 450$. drive E150. Phone 0227263751.
- Amiga 1200 wanted. Tel 0322436693.
- Citizen Swift 240c printer $£ 200$.
- Contacts wanted $100 \%$ reply, Paul, 2 Mersey Road, Sale Cheshire M33 6HN.
- Complete video unit, Amiga $1500,3 \mathrm{Mb}$ and monitor, Editman
computer editor, Panasonic FS2000b, Panasonic FS90 $£ 1,850$, will split, Falmouth. 0326374256.
- Original games $£ 5$ each. 081-440 2016.
- BUZZ BBS. 9pm-Sam. Tel: (0924) 494690
- CD-32 games, offers. After 6pm. 0216082604.
- Wanted: OpalVision Mainboard v2.0. 0403242102.
- Amiga A1200, 120 HD, CM8833 MK2 monitor, 2nd disk drive, joysticks, hundreds of disks, black desk, £630 o.n.o. Tel: 0446719188.


Cheques should be made payable to "Amiga Computing"
Please include my advertisement in the next available issue of Amigo Computing. I confirm that the advert is not selling illegal copies of software or hardware that do not belong to me. I permit you to publish my address/telephone number only if I have included these detais within my advertisement copy. I am over 18 years of age (applicants under 18 must get a parent or guardian to sign below).

Signed
Send to: AC Classifieds, Europa House, Adlington Park, Macclesfield SK10 4NP


## Don't risk missing Jour AMIGA COMRUIING

Hand the order form below in to your local newsagent and s/he will make sure you never miss a copy!

To the newsagent: Amiga Computing should be available from your local wholesaler. If not, contact the Circulation Department at Europress on 0625878888


AIthough there are a healthy profusion of digitisers on the market, the following selection are pretty much the best of the modern bunch offering the ability to grab video images to any machine in the Amiga range.

How before delving into the assorted stand-alone digitisers, it's worth mentioning the alternatives, which in the case of video digitising means multimedia boards and graphics cards such as the IV24 v2, FrameMachine and of course DCTV.

Obviously the first two boards are targeted directly at the high end user base who require more than just grabbing, and have a bank balance big enough to support their aspirations.

Although both the IV24 v2 and FrameMachine offer all kinds of additional features, it must be stressed that grabbing doesn't suffer - in fact both boards offer exceptional quality, easily on a par with that of VLabY/C.

Although DCTV isn't in the same league - due to its composite rather than RGB output - it can still provide impressive results. The only limitation is that static or paused images are required in order to grab. As a result a good VCR is essential.

## Video Master/AGA

Video Master is without doubt the most unique digitiser in the round-up. In fact the program presses home the point by giving itself the title of "the integrated multimedia video \& audio sampler" - otherwise known as a demo generator.

Basically this is a real fun product, which offers a unique approach to the tricky problem of importing audio and video simultaneously. It hasn't been designed to set new standards for image quality - or even sound quality - but the combination of the two as a $25 f \mathrm{fps}$ quarter-screen greyscale is great fun and an absolute doddle to do...

In fact it's amazing how much and animation can be gener-


> Sit back as Hard Times explores where best to invest within the complex and competitive world of video digitising

ated on a standard machine either direct from live video or via pre-recorded footage.

Fortunately HiSoft have spotted that there's more to life than quarter screen animation and as a result they've also added a full frame grabbing option which operates in the same manner as DCTV requiring a good quality still frame pause prior to importation.

Colour also hasn't gone unnoticed and as a consequence a good old-fashioned set of colour filters come as part of the package enabling pseudo colour grabs to be generated from a colour video source.

If fiddling about with filters isn't your cup of tea, HiSoft will happily supply an electronic colour splitter to make the process
a little less arduous. As you've probably spotted from the title, AGA is supported with 64 greyscales and 256 colours plus all the usual array of standard Amiga modes including our old friend HAM.

The system also has added appeal for the hordes of A600 and AI200 owners who now have their very own version of Video Master which plugs directly into the PCMCIA slot.

Basically a great product for people who don't take their Amiga or themselves too seriously and simply want a fun product that offers a unique combination of audio, video and occasional colour.

## Vidi I 2/24 RT

This one may well ring a few bells with the Amiga old guard who've seen the Rombo Vidi range evolve repeatedly over recent years. Now in its latest incarnation, Rombo have added real-time grabbing to the equation - hence the $R T$.

Like all the other packages AGA support has been adopted in both the 12 and 24 -bit forms of the system. Like Video Master, the hardware connects to the Amiga parallel port but unlike VLabY/C, sequential grabbing is not supported.

Vidi in its various forms is strictly a single frame instantaneous colour system. However unlike the majority of the digitisers in the article Vidi does offer a reasonable collection of image processing tools in addition to basic frame grabbing,

The various tools are split into four distinct sections, namely grabbing, mixing, editing and the carousel animation system. Basically much of the software remains essentially the same as its predecessor with the odd AGA addition plus a few new processing features.

If you're after a combination of basic image processing mixed with respectable 12 or 24 -bit frame grabbing, it's well worth closer inspection.

## VLabY/C \& VLab

VLabY/C is arguably the best Amiga digitiser that money can buy - depending on your system. As the name suggests, the board will support both a composite and Y/C signal.

However in order to use it you need a desktop Amiga such as the A2000, 3000 , 4000 with a Zorro slot free for the card itself. In addition, an 030 CPU with 3 Mb of RAM is the realistic minimum for effective application - especially if you're working extensively in 24-bit.

If you can supply all of the above. VLabY/C offers easily the most powerful, flexible and expandable grabbing environment money can buy. With
some of the opposition offering equally impressive single-frame grabbing, this may seem a rather sweeping statement. However it's only when you consider expansion that all becomes clear.

Firstly, an impressive range of software and hardware supports VLab directly.

Notables include Harlequin and Retina, both of which have chosen VLab as their preferred grabber add-on. On the software side both Image FX and ADPro support VLab, as does TVPaint.

Better still, VLabY/C also offers a unique feature which enables full-frame sequential 24 -bit grabbing via its IFR


Stote of the art Image importotion
fram VtahYic
option. And to be totally automated you can even add the AirLink infra red controller which will rewind and play your VCR for you.

Unfortunately both of these features are only available on the Y/C version of

VLab. however for those who don't have a desktop machine there is VLab Par which connects to the parallel port of an Amiga. This, however, isn't available in a Y/C format and as a result can't employ IFR or AirLink.

poweroptical



Use a VCR as a backup storage advice, 200 Amiga floppy disks fit on to a 4 Hr tape which can be used for an alternative hard disk backup system. What's more you can watch T.V on your 1084s monitor. Phono version.

videobackup


Scart socket version. Also available for the IBM PC Please specify version when ordering.
Video Backup Scart.......................... $\mathbf{\Sigma 6 5}$
Video Backup Phono
flopticaldrive
The Floptical stores 20 MB of data on a $3.5^{\prime \prime}$ disk (a SCSI interface is required).
Floptical A2000 Kit ................... 289 Floptical A500 External .........£389
syquest $d$ rive
$3.5^{\prime \prime}$ Removable HD from Syquest. Each cartridge stores 105 MB . Syquest speed is 17 ms . (A SCSI interface is required)
3.5" Syquest SCSI External.. 5599
3.5" Syquest SCSI Internal ... 5539
3.5" 105MB Cartridge
$£ 79$
scsidrives
We can supply SCSI or IDE $3.5^{\prime \prime}$ drives in many sizes. (these drives come complete with a cable and installation soffware)

| 52QMB | £169 |
| :---: | :---: |
| 80MB | $\underline{179}$ |
| 160MB | £249 |
| 200MB | £349 |

ide internal
2.5" Miniature internal HD for the A600/A1200, (these drives come complete with a cable and installation soffware)
80MB Internal HD ....................... $\mathbf{\Sigma 1 7 9}$
120MB Internal HD $£ 229$
170MB Internal HD $\Sigma 270$

## memory expansions

Power Computing manufacture a complete range of memory cards for the Amiga 500, A500+, A600, $\mathrm{A} 1200, \mathrm{~A} 1500, \mathrm{~A} 2000, \mathrm{~A} 3000$ and A4000. Due to the huge range available please telephone us for your requirements and availability.

## $\mathbf{a} 500$ m e m ory

4 Chip 512K RAM expansion with or without battery backed clock. Free software included. (A500+ compatible)
A500 Card with clock .........................ع29
a500 8 mb board
Expand your Amiga from 2 MB to 8 MB of RAM. Plugs into side slot, full auto config. and full through port.

## A500 2MB Board without thru'port.... $\mathbf{\Sigma 8 9}$ <br> A500 2MB Board........................ $£ 139$ <br> A500 4MB Board......................... $\mathbf{2 1 9}$ <br> A500 8MB Board £299

a2000 8 mb board
2 MB to 8 MB expansion for the A2000. Full auto config., IDE interface and 12 months warranty.
A2000 8MB Board
$\mathbf{£ 2 8 9}$


Increase your Amiga 500/2000 chip RAM to a total of 2 MB . MegaChip does this by using its own 1 MB of RAM and drawing extra memory from any other RAM you have installed in your Amiga. No soldering is required.
$\mathbf{\Sigma 1 5 9}$
autorom sharer
ROM Share ..............................E19.95
ROM Share inc. v2.04................. 550
ROM Share inc. v1.3 ................... £39
ROM Share A600 ........................... $£ 29$
ROM Share A600 v1.3 $\Sigma 55$

## supra $m$ o dems

Comes complete with English phone cable, RS 232 serial cable, PSU \& comms software. The Amiga Format Gold winning modem.

Supra Fax Modem+
$£ 119$
Supra Fax Modem 32BIS .......£229
powerdrives
All Power Computing's disk drives come with a 12 month guarantee. The PC880B is available with Blitz Amiga, Blitz and X-Copy or Cyclone compatible (this drive is only available to registered ownen of X-Copy Professional). The drive comes in an aluminium case.
PC880B with Blitz Amiga .............................80
PC880B with Blit, X-Copy ............
PC880E Economy Cycone Comp... ..........95
PC881 Amiga 500 internal drive............
PC882 Amiga 2000 internal drive....................125
new Po88013 drive
The new updated PC880B includes an aluminium casing, anti-click device, virus blocker, cyclone compatible chip and the latest built-in backup hardware which allows X-Copy to copy \& verify All features are mouse operated.

270
$\mathbf{x I d r i v e}$
The 1.76 MB Disk Drive* can be used with any Amiga. With the 'XL Drive' you can fit a massive 1.76 MB on a high density floppy disk the drive can also act as a standard 880 K drive and can also read \& write disks written on an Amiga 4000 internal HD drive.

## External XL Drive <br> £89.95 Internal XL Drive <br> £79.95 <br> A4000 Internal XL Drive <br> $\varepsilon 89.95$

Requires KiclSan 2 ar XLer. Drive
pc880Bupgrade
Power Computing can now upgrade your PC880B drive from a 880 K to a 1.76 MB high density drive, all you need to do is check that you have the serial number 'Sony MFD17W. $22^{\prime}$ on your disk drive casing. (You'll need unscrew the casing. This does not affect the warranty)
PC880 Interface upgrade $£ 49.95$ $\mathbf{x - b a c k u p} p r o$
Extremely powerful disk back-up utility, uses the latest custom chip design. Hardware designed bo Power Computing.
X-Backup Pro
£29.95

epson GT-6500
A high resolution 24 -bit colour flatbed scanner from Epson. Scan up to A4 in size on this 600DP1 scanner. Comes with PowerScan or ASDG (ASDG is an extra $£ 100$ ). GT- 8000 scans up to 800 DPI .


Epson GT6500 PowerScan... $\mathbf{\Sigma 6 5 9}$ Epson GT6500 ASDG............... $£ 759$
Epson GT8000 PowerScan 1099 Epson GT8000 ASDG............£1199 Document Feeder. £399
 duce 256 greyscale images (on a AGA machine), scan in 64 greyscales (non AGA Amiga can only display 16), add colour to greyscale images, special effects, new support for 18 -bit scanner, add text to scans, available with mono or colour scanner.

8119
powerscanners
PowerScanner 4 (mono)......... £119
PowerScanner 4 (colour)....... £239
PowerScanner 4 inc. OCR..... £159
PowerScanner 3................................ $£ 99$
Scanner 4 Upgrade inc. interface .. $£ 50$
Scanner 4 Upgrade software .......... £20
OCR Junior Software ................... $£ 49$
OCR Full Version Upgrade ........ £49
(OCR full version is only available to registered wers of OCR Junior)

## powerscan $I B M$

For those of you who own an Amiga \& IBM PC XT/AT it is now possible to use your PowerScanner for both computers. The scanner features include 256 grey-scale levels by software emulation, $100-$ 400 DPI resolution, Scankit for windows, OCR software and merge function for the quick and easy joining of two partial images. If you already own a Powerscan you can purchase the IBM interface and software separately.
IBM interface \&software .. $\mathbf{8 4 9 . 9 5}$ Full IBM Kit available
pc 1202-8


Power Computing and DKB have joined forces to produce the ultimate A1200 32-bit memory expansion. The PC1202-8 uses the latest industry standard 32 -bit Simm technology which allows you to use 2 MB , 4 MB and 8 MB modules. Simply adding either a PC1202-8 to your Amiga 1200 will increase its processing speed by $219 \%$, comes with real-time battery backed clock and optional FPÚ available.

## Bare

PC1202-8
PC1202-8 +68882
20 MHz
$\ldots \ldots \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .99 .95 ~$

## With 2MB


With 4MB


There is no need to throw away the board if you want to upgrade from 4 MB to 8 MB . Its simple, just buy an extra 4 MB SIMM!
Extra 4MB SIMM.
$£ 159.95$

$$
\mathbf{p c} 1204
$$



The original PC1204 4MB 32-bit memory expansion is still available, and is exceptional value. PC1204 $4 \mathrm{MB}+6888250 \mathrm{MHz} \ldots . . . . . . . \mathbf{£ 3 1 9 . 9 5}$

A4000peripherals


| ve | £15 |
| :---: | :---: |
| Optical Mouse | ع29.95 |
| Replacement Optical Mat | ع10 |
| 100 Branded Disks + Box | . 249.95 |
| 10 Branded Disks | 84.99 |
| A1200 Dustcove | ¢5 |
| Maverick 1 Joystick | £15.99 |
| Python 1 Joystick | 9.99 |
| Apache 1 Joystick | £7.99 |

clkb409 1
The DKB 4091 (licensed by Commodore) SCSI Host Adaptor is a high performance board that connects up to seven SCSI devices to your Amiga. The DKB 4091 features: Full Zorro 111 implementation, Fast SCSI-2 Implementation, SCSI internal connector \& ribbon cable, High density SCSI-2 external connector, Direct Memory Access (DMA) \& hardware to install a $3.5^{\prime \prime}$ hard drive on the board.


DKB 4091
£399.95
emplant $m$ a $с$ e mula tor
This Macintosh emulation board boasts to many features to list all of them, for further details please contact Power. Some of the features include full colour support, stereo sound, hard drive support, Mac. 800 K \& Mac/IBM 1.44 MB support, Appletalk, SCSI devices, printers, scanners and CDROM etc.


# $\sqrt[7]{1}(6)^{\frac{1}{7}}$ $0^{2}$ 5 adicin in ansondens 

If you're looking for the ultimate in 24-bit image capture \& editing, then look no further ! Vidi Amiga (24) RT offers you features and specification unmatched by any rival. And what's most important is its compatibility. Vidi Amiga (24) RT will work on all Amiga's including A500, 1200 etc.

Finally compare our pricing and। am sure you will agree that no other company can offer you so much for so little!

## SOME OF OUR FEATURES..

Image capture at up to full overscan video resolution in all AGA colour modes. Display images up to $1472 \times 576$.

## ANIMATION:

Fully featured Swipe \& Play animation workstation.

POWERFUL IMAGE PROCESSING: Average, Balance, Blur, Brightness, Contrast, Convolve, Drop RGB, Edge Detect, Emboss,Equalize, Exposure, Flip X/Y, Gamma Correction, Negative, Quantize, Saturation, Cut \& Paste.

## FILE SUPPORT:

24-bit Amiga formats, All AGA
Modes, ILBM, ANIM, BMP, PCX, \& TIFF.

## COMPATIBLE WITH:

Workbench 1.3, 2.0, \& 3.0. Composite, SVHS or Y.C. sources. A500, A600, A1200, A1500, A2000, A3000, A4000.

Vidi Amiga the World best selling Amiga Difitises!

These Images represent the quality of output achievable using Vidi Amiga (24) RT


| Grab | Balance <br> Blur <br> Brightness <br> Contrast <br> Convolve | Contrast | Inage <br> R6B <br> Frame | HRTM8 | $646 \times 512$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Hix |  | Undo All |  | 24-Bit | $648 \times 544$ |
| Carousel |  | Cut |  | 1/1 | ID: 1 |
| Load Save |  | Paste |  |  | 区 $\sqrt{ }$ |

Rombo, Kirkton Campus, Livingston, SCOTLAND, EH54 7AZ.
Tel: (44) 0506414631



[^0]:    Zappo 601
    Trapdoor upgrade for the Amiga $600,1 \mathrm{Mb}$ with RTC.
    INDI PRICE $£ 49.99$

    ## Zappo 601 NC

    As above only 512 K , no clock
    INDI PRICE $£ 29.99$

[^1]:    Even the simple 20 graphics can be impressive...

[^2]:    Some of the more unusual graph types can look a bit spooky

[^3]:    SuperDuper info screen provides a graphical presentation of progress

[^4]:    A few of the stumning Lightwave sequences

[^5]:    Rustington, West Sussex BN16 3EY
    (0903) 850378

[^6]:    4
    RAM UPGRADES
    FOR AMIGA 500/600
    Many business packages and advanced games require more than your Amiga's standard memory capacity to run at their full potential. The AmiTek way to add that extra memory capacity to your system. The
    following RAM upgrades are all trapdoor cards and fitting will not

    YEAR affect your Amiga's warranty.
     a battery backed clock.

    A500plus - The A500plus has a battery backed clock buil-in, so these $E 31$ 1w6 RAM upgrades do not require this

    A600 - Low cost, easy-fo-fit, ime RAM
    upgrade without a battery backed clock.
    A600 - Low cost, easy-10-fit, imo RAM
    upgrede without a battery backed clock.
    2 za 1

[^7]:    GVP PHDNEPAK
    Fitted to an Amiga 1500／2000／3000／4000， provides voice mail（multiple mailboxes） and fax facilities－Call for details

[^8]:    Name ．．．

[^9]:    This is the first Aaigabuide which 1 have written with the help of the ksiga conputing Anigasuifte Tutorfal. Hever again vill I use a Readhe doc.

[^10]:    COMPATIBLES NOTE
    
    
     Wuckstart) that mattrt one of the
    
    DVERSEAS TRADER行相

[^11]:    Please send me the items marked below. I understand that if I am not I completely satisfied I can return my purchase within 30 days for a full refund. I I Please send me:

    II enclose a cheque for $\square$ Please debit my Access/Visa number:
    Qty Hems Price Total

    ## I - Nova Dreamer

    I
    Trance Induction tape
    f275
    Packing and Parcel Force delivery $£ 350$ (Add an additional $£ 2$ for Next Day Delivery) Total: $£$

    Expiry date: Signature $\qquad$

    Name(Add an additional $£ 2$ for Next Day Delivery)
    Total: $£$ I

    ## - Please send me the full LifeTools

    catalogue.
    Address I code

[^12]:    fighter, a cleric, a mystic, a mage, a barbarian, an adventurer and a ranger are all in there, complete with their specialist skills to return the land - which is in turmoil, by the way - back to a peaceful state.

    Presented in an atmospheric 3D isometric viewpoint, Legacy of Sorasil features some stunning graphics, eerie sound effects and chilling in-game tunes. It's all icon-driven, easy to learn and features endless hours of solid gameplay. Avid adventurers will have to wait until March to get their hands on Gremlin's adventure sequel.

[^13]:    ＂Diamonds are a girl＇s best friend，＂and Dizzy＇s by the looks of things

[^14]:    Publisher > MicroProse Developer > In house

    Price > $\$ 29.99$

[^15]:    If you bave difficulty obtaining ADI please contact Europress Softuan

